2021 Social Responsibility Report

株洲中车时代电气股份有限公司
ZHUZHOU CRRC TIMES ELECTRIC CO., LTD.



(a joint stock company incorporated in the People's Republic of China with limited liability)

Stock Code: 688187 (A Share)

3898 (H Share)

About the Report

This report is a true reflection of Zhuzhou CRRC Times Electric Co., Ltd. in terms of its active fulfillment of economic, environmental and social responsibilities as well as its full implementation of the sustainability strategy. The report discloses the CSR practices and performance of the Company in 2021 to all stakeholders, in hope of strengthening communication and exchange with stakeholders for closer cooperation and joint efforts towards sustainable development.

Reporting Period

The report covers the period from 1 January 2021 to 31 December 2021 and part of the contents may exceed the above-mentioned scope in order to enhance data comparability and content continuity.

Reporting Boundary

The report covers the Company's headquarters and share-holding subsidiaries but does not include joint stock companies.

Reference Terms

For better expression and readability, Zhuzhou CRRC Times Electric Co., Ltd. is referred to as "CRRC Times Electric", "the Company" or "we" in this report.

Data Sources

All data herein are collected from the Company's official documents and statistical reports. The data quoted is the final statistical data. The report uses the same calculation methods as the previous reports.

Preparation Basis

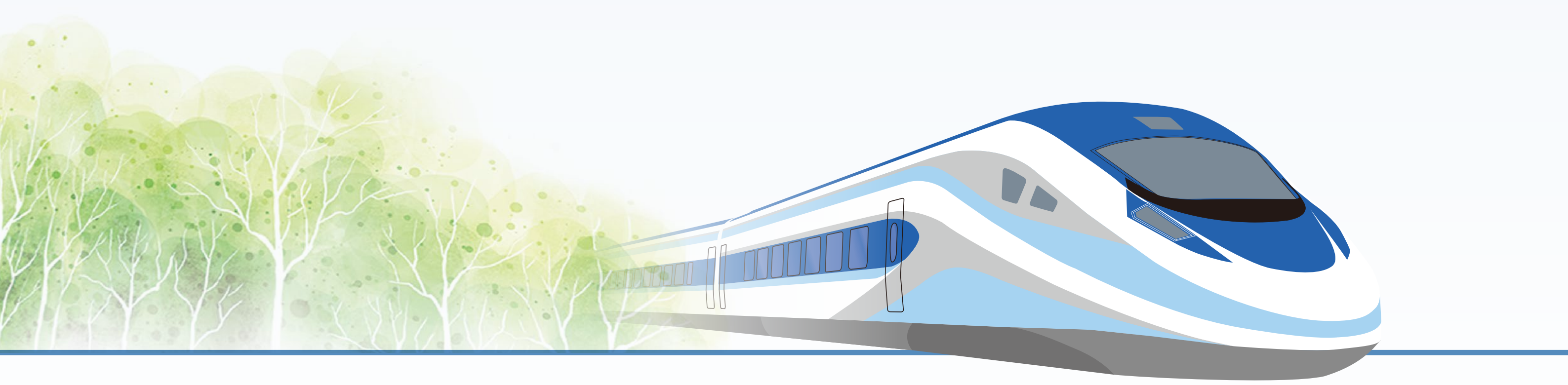
This report is prepared with reference to the Environmental, Social and Governance Reporting Guide issued by The Stock Exchange of Hong Kong Limited(SEHK), Guidelines on Listed Companies' Environmental Information Disclosure issued by Shanghai Stock Exchange, GRI Sustainability Reporting Standards (GRI Standards) issued by the Global Sustainability Standards Board(GSSB), Guidelines on the Social Responsibility for Industries of China (GSRI-China) and The Ten Principles of the UN Global Compact.

Reliability Assurance

No fictitious record, misleading statement, or material omission are included in this report.

Report Access

This report is published in both Chinese and English versions. For more information about our social responsibility, you can download the PDF version of the report from our official website. If there are discrepancies between the two versions, the Chinese version shall prevail.



Contents

Speech By The General Manager



The year 2021 marked the centenary of the Communist Party of China ("CPC"), the beginning year of China's 14th Five-Year Plan period, and the 140th anniversary of the foundation of CRRC. It also witnessed the Company's joint efforts with its global partners during the extraordinary period.

Based on the new development stage, we acted on the new development philosophy and accelerated the establishment of the new development paradigm in 2021. Adhering to the concept of "operating with high quality and high efficiency" and the strategy of "concentric and diversified development," we firmly seized the development opportunities brought about by the green energy and low-carbon transition as well as and digital transformation to pursue self-renewal, and made new breakthroughs in technological innovation, industry development, market expansion, etc., laying a strong foundation for a good start of the 14th Five-Year Plan.

In 2021, CRRC Times Electric started trading on the SSE STAR Market, becoming an A+H share dual-listed company and ushering in a new period for creating sustainable value for shareholders. In the past year, the Fuxing Plateau EMU equipped with the Company's traction, network and power supply systems entered Tibet. We also contributed to the opening of the China-Laos Railway and released the first 600km/h high-speed maglev transportation system. Our technological innovations continued gracing the "national name card" of CRRC Times Electric. Driven by China's 30·60 Decarbonization Goal, we stepped up efforts in developing the emerging industries, such as semiconductors, electric drive systems for passenger vehicles, and power generation from new energy sources, and gathered resources and investment for them to seek new opportunities for growth. Empowered by the reform and the digital transformation, we created greater value. Under the great downward pressure on the rail transportation industry, we reformed the industry system, the organizational structure and the personnel system, realizing stable quality and efficiency improvements. We have always been grateful to the staff for their devotion to work. In addition to a good workplace and living environment, we also provided multi-dimensional training for employees to create better career development opportunities and share the Company's development results with them.

Seizing the day and living it to the fullest, we aim to realize our dreams and create a better future. Standing at a new historical point, we will firmly grasp the pulse of the times to serve national strategies. Based on innovation, we will create greater value for customers, shareholders and society, and repay them with higher-quality and more sustainable development. Besides, focusing on the sustainability of the Company's main businesses, we will continue to create value for shareholders and realize sound development in all aspects. As economic development accelerates in the new era, CRRC Times Electric will shape its role as "a pillar of a great power" through technological innovation and contribute our share as a state-owned enterprise ("SOE") to China's transition into a country with a robust transportation network.

Executive Director and General Manager of Zhuzhou CRRC Times Electric Co., Ltd.

Shang Jing

About Us

Company Profile

Zhuzhou CRRC Times Electric Co., Ltd. (formerly known as Zhuzhou CSR Times Electric Co., Ltd.) was established jointly by five organizations, including CRRC Zhuzhou Institute Co., Ltd. (formerly known as CSR Zhuzhou Institute Co., Ltd.) on September 26, 2005. On December 20, 2006, CRRC Times Electric was successfully listed on The Stock Exchange of Hong Kong Ltd. (stock code: 3898). On September 7, 2021, it was listed on the SSE STAR Market (stock code: 688187).

CRRC Times Electric is the backbone of the "golden card" of the high-speed railway system in China and is a domestic enterprise that possesses and applies proprietary core technologies on a mass scale. In order to achieve "higher reliability and safety, as well as higher efficiency and effectiveness," the Company adopts the rapid traction management model and adheres to the "concentric and diversified development" strategy. Through continuous indigenous innovation, we have developed ten core technologies and are expanding towards more advantageous sectors. Focusing on technology and market, we have established a complete industrial chain comprising "basic components + devices and systems + complete machine and engineering". Our businesses cover multiple sectors, such as high-speed railway, locomotive, urban rail transit, railway engineering machinery, communication signal, ground equipment, high-power semiconductor, sensor, marine engineering equipment, electric drive systems for new energy vehicles, power generation from new energy and industrial converter, etc. We have established presence in over 20 countries and regions.

Committed to the mission of "connecting the world to benefit humans," CRRC Times Electric aspires to work with all sectors of society to make outstanding contributions to the growth of China's high-end equipment industry.

Corporate Culture

Missions	Connecting the world to benefit humans
Vision	Becoming a leading conglomerate with top multinational operation and rolling stock equipment as its core business
Core value	Going along the right path with the righteous mind and doing good deeds with good intentions
Organizational climate	Positive and harmonious, candid and honest, open and inclusive
Work style	Strong commitment, sense of timeliness and pursuit of excellence

CSR Performance

Economic

RMB 15.121 billion
Operating income

RMB 1.193 billion
Total tax payment

RMB 44.151 billion
Total assets

RMB 2.018 billion
Net profit attributable to owners

RMB 17.85 billion
Investment in technological innovation

35
Technological research projects approved

Environmental

149.1 GWh
Electricity consumption

2.31 million cubic meters
Natural gas consumption

1.72 million tons
Water consumption

0.013 tce
Comprehensive energy consumption per RMB10,000 of output value

4,994.53 tCo_2e
GHG emissions from natural gas combustion

6,773.61 tCo_2e
GHG emissions from electricity consumption

80,000 tons
Reclaimed water saved in 2021

817,000 tons
Industrial wastewater discharge

519.26 tons
Hazardous waste disposal

Social

7,733
Employees in total (domestic)

RMB 8.69 million
Total investment in training

697
Key suppliers

External Recognition

The Company won ten awards issued by CRRC, including the 2020 Outstanding Contribution Award and the honorary title of Class-A Enterprise in the 2020 Assessment of the Party Building Accountability.

The Company's central air conditioning maglev power system all-in-one machine was recognized as the Innovative Product of 2021 China Refrigeration Exhibition.

The Company was honored as an Excellent Enterprise in CRRC's Corporate Culture and Brand Evaluation in 2020.

The Company was rated as a model enterprise in the labor competition among key provincial- and municipal-level construction projects in 2020.

The paper titled The *Construction of a High-Quality Financial Reporting System Based on the Disclosure Requirements for A+H Shares and the Optimization of Quality Cost Management Based on the ERP System* published by the Financial Center of CRRC Times Electric won the second prize of the Accounting Society of Zhuzhou.

The Company was recognized as a Water-Saving Enterprise of Hunan Province.

The patent of *A Low-Floor Intelligent Rail Train with Power-Dispersing Track Following Rubber Wheels* won the first prize of the Patent Award in Hunan Province.

The project *of The Development and Application of A Permanent Magnet Traction System for Urban Rail Transit* won the second prize of the Science and Technology Award of CRRC.

The project *of The Development of an IGBT Gate Drive Series Products* won the third prize of the Science and Technology Award of CRRC.

The project of *The Establishment and Implementation of a High-Quality Audit Risk Control System for Rail Transit Enterprises* won the second prize of Hunan Enterprise Management Modernization Innovation Achievement in 2021.

Sustainability Management

Sustainability System

The Company continuously improves the sustainability management framework and comprehensively implements top-down management of sustainability work. We have created a complete and systematic sustainability management system to further enhance our sustainability development management. Meanwhile, by integrating the concept of sustainability into corporate strategy and culture and practicing social responsibility extensively, we put sustainability into place thoroughly to create comprehensive economic, social and environmental value.

Identification of Material Topics

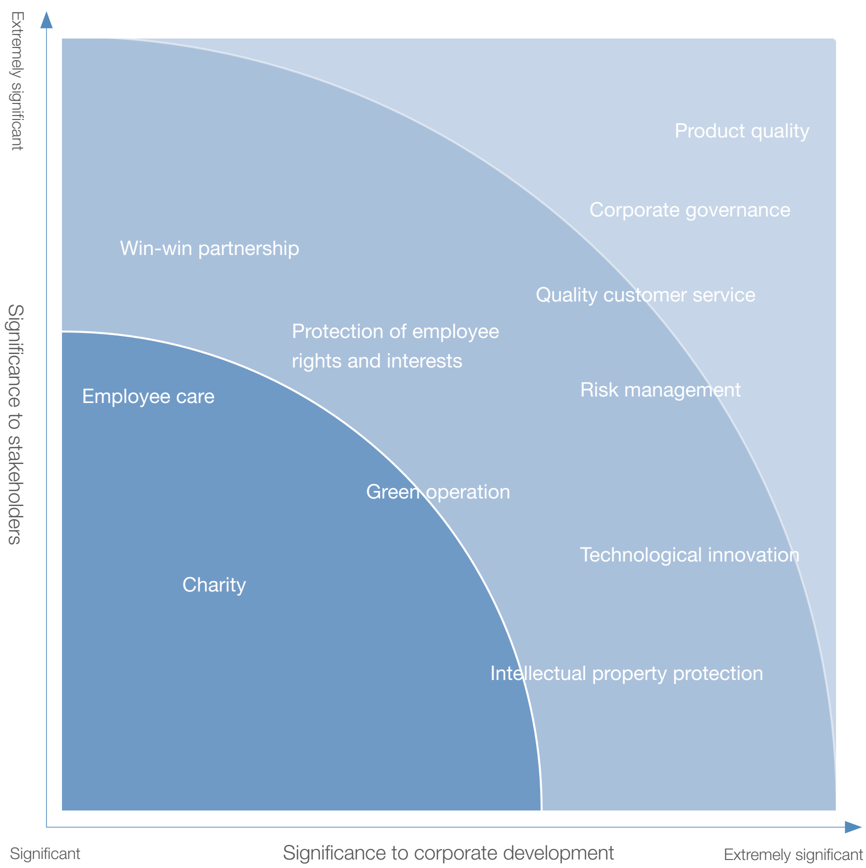
The identification and management of material topics of social responsibility is high on our agenda. We analyze and evaluate the external environment as well as the Company's sustainability strategies and capabilities actively to identify the expectations and demands of stakeholders. Based on an accurate analysis of the material topics, we strive to deepen sustainable development of the Company.

Source of topics

- Suggestions regarding the Company's management
- Expert advice
- Research on benchmarking of peers
- Social responsibility standards / guidelines
- Gathering of stakeholders' opinion

Standards of selection

- Contribution to sustainable development
- General concern of stakeholders
- Requirement of the guidance on social responsibility for information disclosure
- Compliance with the Company's needs of strategic development



Stakeholder Communication

We actively track the needs and feedback of the stakeholders through diversified communication mechanisms and channels, and inform the stakeholders about the Company's development in a timely manner, in an effort to gain the trust and support of the stakeholders, and realize the win-win results between the Company and the stakeholders.

Stakeholder	Ways of Communication	Requirements & Expectations	Main Indicators
Government	• High-level communication mechanism • Work meetings and report • Implementing government management requirements • Abiding by laws, regulations and policies	• Operating in compliance with laws and regulations • Guaranteeing tax revenue • Promoting employment • Developing rail transit equipment industry • Driving local economic development	• Total tax income • Number of new local hires
Customers	• Soliciting opinions • Satisfaction surveys • Customer visits	• Upgrading products • Quality services	• Customer satisfaction rate • Products qualification rate
Investors	• Regular report • Unscheduled announcement • General Meeting of Shareholders • Circulars	• Sustained profitability • Standardized governance	• Profits • Return on Invested Capital • Asset-liability ratio • Owner's equity
Employees	• Workers' Congress • Executives reception day • Exchange forum • Skill training	• Safe, healthy and comfortable working environment • Equal development opportunities • Sound compensation and benefits	• Employee satisfaction • Employee turnover rate • Investment in employee training
Suppliers	• Suppliers meeting • Negotiations on contracts • Tendering meetings	• Open, fair and transparent cooperation • Obtaining reasonable income	• Project bidding • Claims relating to quality by suppliers etc.
Communities	• Charitable activities • Celebration day party • Questionnaire surveys	• Helping the poor and people in need • Community development and harmony	• Investment in communities • Times of participation in community activities

Laying a Solid Foundation for Long-Term Development

Through dedicated efforts in corporate governance, risk management, internal control and the adherence to Party conduct and integrity, CRRC Times Electric has maintained responsible development, further improved the Company's modern enterprise system and corporate governance structure, and continuously facilitated steady development.

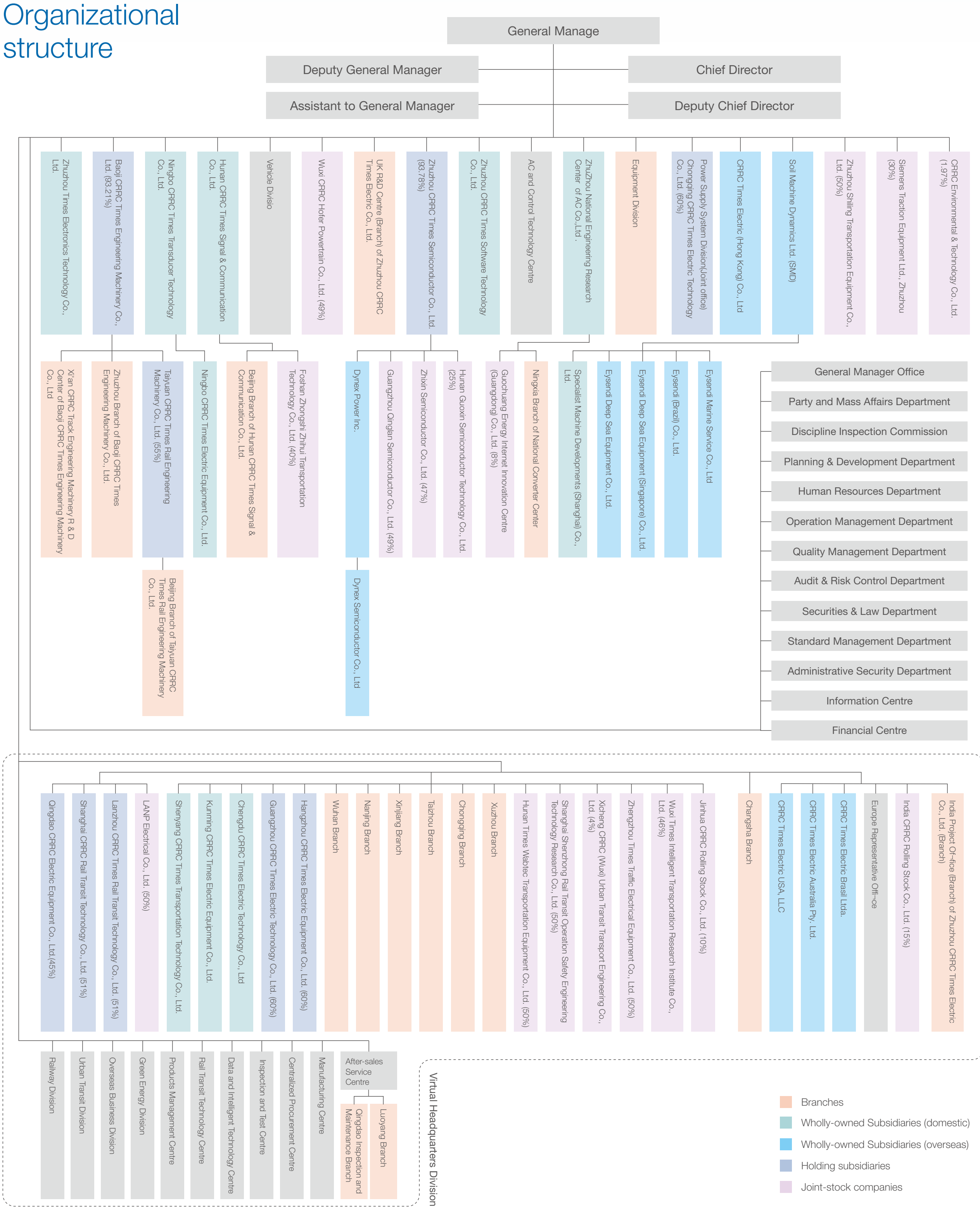




Corporate Governance

To further improve the Company's governance structure, we clarify the division of responsibilities and functions of the General Meeting of Shareholders, the Board of Directors, the Board of Supervisors, and the management in strict accordance with relevant national laws and regulations and the Company's Articles of Association, thereby building a corporate governance framework with a clear division of responsibilities and scientific norms.

Organizational structure



Governance System

Board of Directors

The Board of the Company comprises of 10 directors, each with different industry backgrounds and expertise. Responsibilities are clearly delineated within the Board, and its convening procedure complies with the provisions of the Articles of Association and other relevant laws and regulations. It formulates the Company's development strategy and monitors the implementation of management and finance within the terms of reference as required in the Articles of Association and in accordance with the procedures set out in the Rules of Procedures of the Board, and takes long-term performance and returns as its priority. Five specialized committees, namely Strategy Committee, Audit Committee, Risk Management Committee, Nomination Committee and Remuneration Committee are established under the Board, which further improve the Company's governance structure and internal control system, thus facilitating the standardized, sound and sustainable development of the Company.

The Company has 5 independent non-executive directors representing half of the total number of directors. They focus on the improvement of corporate governance and major decisions of the Company, express fair and objective opinions on major matters and connected transactions etc. of the Company, and employ scientific approaches in the decision-making of the Board, so as to safeguard the interests of the Company and minority shareholders.

In 2021

10

Board meetings held



Board of Supervisors

The Board of Supervisors comprises 4 supervisors, including 1 independent supervisor, 1 shareholder representative supervisor and 2 staff representative supervisors. In particular, staff representative supervisors shall be recommended at the workers' congress and elected. The Board of Supervisors exercises supervision rights independently according to the law. They supervise the legality and compliance of the duties performed by the directors and senior management of the Company to safeguard the legal rights and interests of the shareholders, the Company and its employees.

In 2021

10

Meetings of the Board of Supervisors held



The Management

The senior management of the Company is responsible for executing strategic decisions of the Board and management of daily operations of the Company. Daily supervision and annual assessment of the management are performed by the Board. The responsibilities of the Chairman of the Board and General Manager of the Company are clearly defined to ensure the independence of the Board's decision-making and the daily management and operation. The Company sets annual goals for subordinate units by dividing its strategic objectives for different years and at all levels and establishes an objective-based evaluation system for the senior management and managers of subsidiaries, business divisions, centres and functional departments to form a performance-linked incentive and disciplinary mechanism. Assessment criteria and methodology are determined in the form of annual target management responsibility statement and the performance remuneration of the management is directly linked with results of appraisal.

Information Disclosure

In strict compliance with the relevant national laws and regulations as well as the requirements of the China Securities Regulatory Commission, SSE and SEHK, the Company issues regular reports to disclose relevant information in a timely, accurate and complete manner to ensure that investors and stakeholders can keep abreast of the Company's operation and management. Besides, the Company has also established designated departments, positions and specific mailbox to enhance communication with its investors. The Company strictly fulfills the confidentiality obligations in information disclosure. There was no significant premature disclosure or misstatement of information in 2021.

ESG statement of the Board

The Board of CRRC Times Electric is fully aware of the importance of good corporate governance and risk management processes, including the management of ESG matters critical to the Company's sustainable development. We hereby promise that the Company will strictly abide by the requirements of stock exchanges where the Company is listed on the disclosure of environmental, social and governance (ESG) information through ESG reports.

The Board is responsible for supervising CRRC Times Electric's fulfillment of its ESG commitments. Guidelines on Listed Companies' Environmental Information Disclosure issued by the SSE, In compliance with the latest requirements in the ESG Reporting Guide of SEHK, national laws and regulations on ESG issues, and relevant norms stipulated by China Securities Regulatory Commission and SEHK, we release ESG reports regularly to disclose our ESG information, thus ensuring that investors and stakeholders are well-informed of the Company's operation and management. Based on external ESG requirements and the development strategy of the Company, the Board reviews material ESG topics, and discusses and identifies key ESG risks and opportunities of the Company. The Board takes the management and improvement of such material topics as the strategic focus of the Company's ESG-related work as well as a part of the Company's overall strategy, and monitors the management of such topics and related practices.

In 2022, the Board of CRRC Times Electric will further improve ESG risk management, information collection and reporting systems, develop sustainability strategies and targets, and integrate them into the daily work of the Company.

Risk Management and Internal Control

To comprehensively enhance the ability of risk management, the Company studies and identifies major risks scientifically, and thoroughly implements risk management strategy to realize the integration of risk management with daily management. We keep building regulations and improving our internal control system that emphasizes the fulfillment of responsibilities by each department, cooperation among all departments, mutual supervision, and connections among all processes, so as to ensure healthy development of the Company.

Establishment of risk management system

The Company has continuously improved the risk management system and the internal control system. The Board is responsible for the establishment, improvement and effective implementation of the risk management system and the internal control system of the Company. The Risk Management Committee under the Board is responsible for reviewing the Company's risk strategy, risk management system, work reports on risk control, internal control system and procedure, regular assessment of risk management policies, supervision of the implementation of rules and regulations and major operational decisions as well as assessment of significant matters. Under the guidance of the Board, and the Risk Control Committee, and the Audit and Risk Control Department, the Audit and Risk Control Department puts most of its efforts in monitoring the Companies' financial affairs, operations, compliance, overseas businesses, and risk prevention and control. Besides, it conducts internal control supervision and evaluation of the Company and its subsidiaries, urges timely rectification of deficiencies in internal control, and controls business risks effectively. The Board of Supervisors is responsible for supervising the operation of the Company's risk management and internal control systems. The General Manager is responsible for organizing and leading the design, operation and assessment and evaluation of the Company's risk management system and internal control system.

Rules and regulations on risk management

Focusing on the goal of "strengthening internal control, preventing risks, promoting compliance," the Company has revised the Internal Control Application Manual and built an internal control system featuring "one system," "two levels," "four lines" and "a number of internal control subjects." In accordance with the Basic Norms for Internal Control, we have introduced self-evaluation of the effectiveness of internal control based on daily supervision and special inspections of internal control. The multi-dimensional internal control audits and self-examinations are launched to further enhance our internal control management. For the first time, we accepted the internal control audits of CRRC and Deloitte. In 2021, we reviewed 22 regulatory documents about risk management and control, including the *Audit Management Measures*, the *Comprehensive Risk Management Measures*, the *Internal Control Application Manual and the Measures for the Implementation of the Accountability for Illegal Operations and Investments*, further improving the risk management and internal control systems of the Company.

Risk management practices

The Company makes unremitting efforts in ex-ante risk prevention and interim audits and supervision. By expanding the coverage of audits and creating innovative auditing models, we give full play to the Company's role in "strengthening audits, preventing risks, and tightening control," and perform high-quality audits and risk management to guarantee the healthy and stable development of the Company.

In 2021, the Company improved its audit rectification work by strengthening the implementation of audit rectification responsibilities, improving the audit rectification work mechanism, enhancing coordination for performance audits, and promoting the application of audit rectification results. According to the principle that "the auditor is accountable for the audit," we launched closed-loop tracking of the rectification of problems in our audit work, broke down the auditing responsibilities among related personnel, and conducted a special inspection of the acceptance review and evaluation of the audit rectification work. Based on the idea of structured processes, we came up with 35 internal control subjects in four categories, reshaping our internal control system.

CRRC Times Electric won the provincial-level first prize of excellent internal audit projects.

The project of *The Establishment and Implementation of a High-Quality Audit Risk Control System for Rail Transit Enterprises* won the second prize of Hunan Enterprise Management Modernization Innovation Achievement in 2021.

The project of *The Post-Investment Audit of Overseas M&As of Rail Transit Equipment Companies – Experience Sharing in Implementing Major National Policies and Measures* was included in the list of "Typical Cases That Internal Audit Promotes the Implementation of Major State and Party Policies and Measures" published by the China Institute of Internal Audit.

Party Conduct and Clean Governance

The Company thoroughly implements the guiding principles of a series of important speeches and instructions made by General Secretary Xi Jinping on Party building in SOEs, and has advanced our Party building stably. We have pressed ahead with clean governance to foster a healthy political atmosphere of integrity within the Party.

Deepening Party building

In strict compliance with new requirements for exercising full and strict Party self-governance under new circumstances, we give full play to the role of full and strict Party self-governance in providing political guidance and guarantees for a good start during the 14th Five-Year Plan period.

Promoting high-quality Party building

To optimize our brand of Party building, we have developed the "Fluttering Flag" high-quality Party building brand, fully participated in the high-quality Party building project featuring the integration of Party working group, all levels, Party building and business operations, as well as the standardization of routine tasks, project implementation of key work, and brand building for special operations launched by the Party Committee of CRRC Zhuzhou Institute, and actively explored the Party building model with characteristics of CRRC Times Electric. In 2021, we continued to optimize the logic and methods of the "Fluttering Flag" Party building project, and comprehensively upgraded the platform for the cultivation, enhancement and innovation of Party building capacity. The "Fluttering Flag" high-quality Party building project is the only A-level Party building brand under the Party Committee of CRRC Zhuzhou Institute.

Ensuring strict Party self-governance

Focusing on the learning of Party history. We have introduced the six innovative learning methods namely self-learning, led learning, sing learning, observation learning, competition learning and exhibition learning to promote Party history learning and education, and carried out a series of activities to study the Party's history, such as the Party Day event, Party lecture competitions, knowledge competitions about the Party's history, and recitation competitions for Party members and their children. These efforts have facilitated the learning atmosphere and helped instill Party's history into the minds of the staff.

Focusing on inspection and rectification. Targeting the actual situations of production operations as well as reform and development, we implemented regular inspections on specific issues. In accordance with the six major working mechanisms for "ledger, supervision, disclosure, resolution, oversight, and accountability," we planned inspection and supervision tasks, and actively established a long-term mechanism to ensure targeted rectification as well as effective resolution.



Party history competition



The open day event to celebrate the centenary of the CPC

Fighting corruption and upholding integrity

The Company continues to build an oversight system integrating multiple spheres, and comprehensively promotes the system under which officials "don't dare to, are unable to and have no desire to commit acts of corruption." Through the signing of letters of responsibility, integrity talks inspection and supervision, as well as the political inspections and oversight by the SASAC, special supervision, and optimization of the corruption risk prevention and control system, etc., we strive to build a line of defense of anti-corruption, and foster a healthy and clean atmosphere for development. The Central Group of the Party Committee carries out honesty talks with the executive directors every year, and the executive directors carry out honesty talks through the Central Group of the Party Committee. At the same time, the executive directors learn by participating in the clean Party classes in their respective branches as ordinary Party members.

In 2021, we continued to build the integrity culture education system of CRRC Times Electric that integrates four dimensions of "position, activity, standard and mechanism," and made great efforts to create an atmosphere of integrity advocating "moral self-cultivation, diligence, and the assumption of responsibility." We also established the whistleblower system with corruption reporting procedures and implementation methods to encourag employees to report corruption and non-compliant behaviors.

In 2021

We had integrity talks with **1,155** professional managers and key employees.

We held **24** lectures with the theme of "disciplinary inspection cadres talk about discipline."

Involving **1,821** leading cadres and key members from 22 (general) Party branches of CRRC Times Electric.

No corruption lawsuits against the Company or its employees were filed.

There was no violation of laws and regulations on anti-bribery, extortion, fraud and money laundering.

Deep integration of joint oversight and improvement of corporate governance capabilities

The Company held two joint meetings on Party conduct and clean governance and anti-corruption to create a powerful synergy for oversight.

The Company has conducted self-inspection of appropriation of public property and shadow shareholders, and investigated businesses run by Party members, cadres and key personnel themselves and their relatives, to effectively enhance the operability and effectiveness of the oversight system.

Deep integration of actions to stimulate innovation and entrepreneurship and enhance corporate discipline

The Company took actions themed with "innovation-driven development and brand building," and built CRRC's corruption risk prevention and control practice project of "accurate detection for a strong network of integrity" and CRRC Zhuzhou Institute's "four-dimensional" integrity culture and education system project, as well as 22 discipline inspection brands at the grassroots level.

Deep integration of digital supervision and corporate development strategies

In accordance with the strategy of digitalized CRRC Times Electric, we have applied information technology and platforms to the development of the new integrity file system and the digital supervision platform for official vehicles, the collection and analysis of key elements of invitation for bids and bid negotiation, and the formulation of proposals on decision-making on major issues, appointment and dismissal of important officials, investment decisions on major projects, and the use of large amounts of funds. It is our active exploration of the digital supervision.

Making Dedicated Efforts to Create High-Quality Products

Quality is the foundation of a business. Committed to serving technological innovation, we have optimized the management of R&D projects and increased investment, and established a quality management system suitable for various business segments in accordance with standards such as the ISO 9001: 2015 Quality Management System. We have continued the research and development with digital technologies, refined management, and optimization of project management processes to improve our management. To improve working efficiency and quality, we have pushed ahead with R&D project management, R&D layout and collaboration, qualification and result management, external scientific technology reporting management, and intellectual property management. We also have revised and improved relevant management procedures and systems of research and development, to secure orderly daily work and steady advancement of various key works at all levels, creating value for our clients.





Boosting Technology R&D

As a prominent supplier of propulsion systems for China's high-speed rail, we continue to strengthen innovation in business, technology and management, and create the "digital and smart CRRC Times Electric." We are committed to producing intelligent, safe, green and comfortable high-end equipment, and continuously increasing investment in the research and development of core technologies and new products. We strive to develop more products of higher quality that meet the needs of society and the market, lead the development of the industry, and create a better life for the people.

Innovation on R&D management mechanism

The Company attaches great importance to the establishment and improvement of R&D management mechanism, and has established a Technical Committee, which comprises the deputy general manager in charge of technology (chief engineer), deputy chief engineer, technical expert, and technical supervisors in all business units. The Technical Committee provides support for the decision making in relation to technological research of the Company. We advance technological innovation and industry development in parallel, continue to perfect the system and improve the capabilities of the technological innovation by building open, collaborative and efficient international R&D processes and platforms. At the same time, we vigorously cultivate talents for technological innovation, and improve the performance management system and remuneration distribution system to provide a solid scientific and technological guarantee for the realization of the Company's strategic goals.

Management of significant projects

We pursue development driven by independent innovation. In order to ensure the sustainable development of its significant technological research projects, the Company insists on the rolling development mechanism of significant projects and continuously injects new ideas and concepts to guarantee the continuous enhancement of technical strength for technological research. The Company implements the assessment and incentive mechanism for significant technological research projects, which has effectively promoted their process control and target management. The Company has expanded its test resources, and built the reliability laboratory for material screening and verification to improve testing capabilities and establish the product reliability testing platform with the model of testing analysis and evaluation, making us a leader in the formulation of reliability testing standards in the industry. In 2021, the Company undertook two projects in the National Key Technologies R&D Program, including the rail transit system safety assurance technology and high-performance traction power supply system, and completed the project tasks. All of the Company's external projects passed acceptance and performance checks.

Technology exchange and cooperation

Academic exchange and cooperation is an important mechanism that promotes the healthy development of science and technology. Therefore, the Company has been promoting inclusive innovation in an all-round way, making overall plans, deepening cooperation and diversifying models. We continue to cooperate with top universities, strengthen university-enterprise cooperation and joint training programs, and the exchange of specific research results and utilization of cutting-edge technical information at home and abroad.

We build platforms for cooperation in major projects and exchanges of cutting-edge technologies, and strengthen collaboration with universities, research institutes and strategic customers, as well as technology exchanges with different industries and enterprises. We have built cooperative relationships with universities and our counterparts in the fields of electrified transportation, new energy sources and power electronics, etc., so that we can make progress together through win-win cooperation, establishing a common "circle of friends".

Technological Innovation

The Company vigorously creates a scientific and technological innovation atmosphere where all participants quest for science, uphold openness, inclusiveness, and self-reliance, and never cease to make progress. The Company continues to increase investment in research and development, and accelerate in-depth R&D of new technologies and the accumulation of technology to provide better process and equipment solutions.

Technological R&D results

The Company attaches great importance to protection of intellectual property rights. In order to fully safeguard the Company's intellectual property rights, we have formulated a series of management regulations and guidance documents, such as the *Intellectual Property Management Measures*, *Intellectual Property Management Measures for Research Projects, Intellectual Property Management Work Manual, and Intellectual Property Review Measures for Scientific Papers.*

CRRC Times Electric

The Development of A Permanent Magnet Synchronous Traction System for Urban Rail Transit

Second prize for science and technology progress of the China Machinery Industry Science and Technology Award

Environmental Adaptability Design of Typical Components of High-Speed Rail Equipment and Key Technologies for Long-Term Protection and Applications

Second prize for science and technology progress of the China Machinery Industry Science and Technology Award

Rail Flaw Detection Wheel Automatic Alignment System

Third prize for science and technology progress of the China Machinery Industry Science and Technology Award

In 2021

35 External technology projects approved, including

9 Projects under the National Key Technologies R&D Program

666 Patents applied

515 Authorized patents, including

293 Authorized invention patents

As of the end of 2021

3,145 Patents granted cumulatively, of which

about **50** % Invention patents

Influence on innovation in the industry

Based on technological innovation, the Company leads or participates in the formulation of various standards by giving full play to its technological strengths, striving to improve industry standards. In 2021, our experts drafted and released eight international standards, among which two international standards, including the IEEE Standard "Vital Computer for Rail Safety-related Applications", the first IEEE standard developed by the Company, were drafted under our leadership. We also formulated six national standards, two industry standards and one association standards, which have significantly enhanced our industry influence.

Product Quality and Safety

We adhere to the policies of "Optimizing platform for sharing of knowledge, Improving the ability of technological innovation, Focusing on quantitative analysis of processes, Setting up lifecycle management, Insisting on enhancement of scientific prevention, Enhancing awareness of quality and safety, Paying attention to details and Pursuing customer satisfaction," and comply with standards such as the ISO 9001: 2015 Quality Management System. We carry out research to continuously improve our product quality and safety, and achieve effective control in all aspects and processes from product design to delivery through a series of assurance mechanisms.

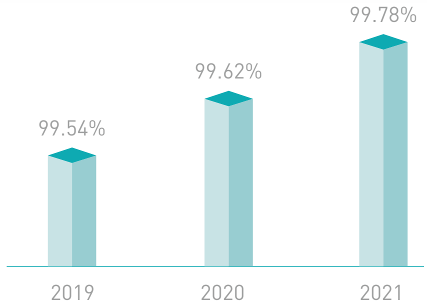
Quality Management System and Certification

The Company has established a complete quality assurance system based on the ISO9001:2015 Quality Management System. We have also complied with the requirements of ISO/TS22163 Standard (IRIS 03 International Railway Industry Standard) to implement quality control during the production process of our products and the realization process thereof, while keeping suppliers under strict management and actively promoting project management and RAMS (reliability, availability, maintainability and safety) management.

Standard number	Name of standards	Term of validity	Certification body	Certificates
ISO/TS 22163:2017	Business management system requirements for rail organizations	28/10/2023	Bureau Veritas	
EN15085	Railway applications - Certification system for welding of railway vehicles and components	13/07/2023	TÜV Rheinland	
ISO 9001:2015	Quality Management System	28/12/2023	Bureau Veritas	

Quality monitoring methods

Through various system certification and effective monitoring of the process, the Company has initially established and improved the complete quality management and guarantee system covering the whole life cycle of products such as marketing, design and development, procurement, production and manufacturing, and product services. We ensure the quality and safety of products throughout the life cycle through the implementation of strict and effective review, inspection and service standards. In 2021, the one-time passing rate of the Company's products was 99.78%.



Product one-time passing rate

Product safety

Guaranteeing product reliability

As a large-scale rail transit equipment manufacturer integrating research and development, production, distribution and sales, and a core supplier of components for railway locomotives and vehicles, the Company's products are widely used in high-speed trains, and the safety and reliability of products are therefore directly related to the lives and safety of millions of passengers. Product quality equals safety, and safety is the life assurance of millions of passengers, which is also the golden rule for an enterprise's survival. The Company has always regarded product safety as the core of its product quality work. Based on the technology safety policy of "Complying with railway safety standards to establish product safety concept; Understanding product safety effectiveness to improve safety rules and norms; Producing safe and reliable products to ensure train traffic safety", the Company implements strict control measures on various aspects including marketing, design, procurement, production, delivery and after-sales, and resolutely puts an end to product quality and safety problems. In 2021, the Company did not violate any laws and regulations related to the health and safety of the products and services provided.

Keeping personal information safe

The company attaches great importance to the security of customers' personal information, strictly complies with the Civil Code, Personal Information Protection Law and other laws and regulations, and continues to improve the information security management system. In 2021, the company did not experience any leakage of customers' personal information.



Improved Testing and Verification System

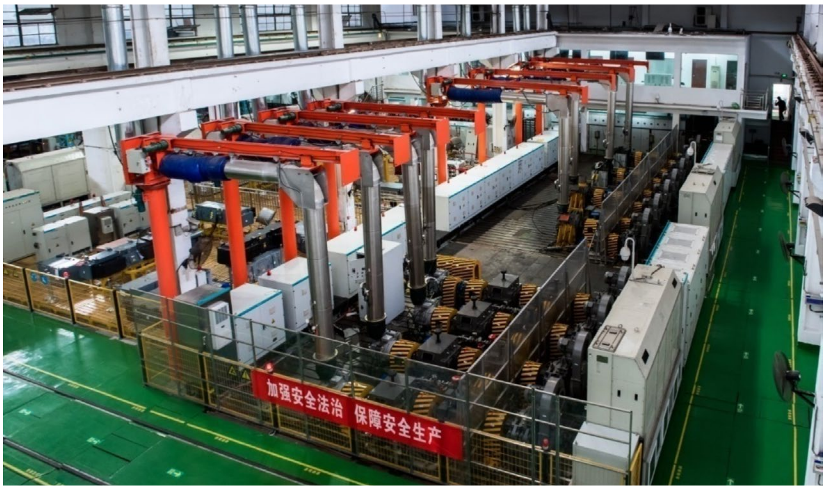
Approval and Authorization

The Company invested in and constructed national key laboratories for traction and control of EMUs and locomotives.

Inspection and Testing Capability

Traction system laboratory

The traction system laboratory is capable of conducting tests on traction and drive features, temperaturerise , energy consumption, anti-skid and others based on the requirements of relevant international and national standards, and are available to meet the testing requirements of converter and transmission system applied in high-speed EMUs, urban railway trains, electric locomotives, diesel locomotives, industrial transmission and other fields.



Environmental and reliability laboratory

Climate and environment testing capacity

The climate and environment testing system is capable of conducting thermal test (thermal change and thermal shock), steady state damp heat test, alternating temperature and humidity test, icing test, salt spray test, dust and water resistant test (IP68 and below), operational condition, insulation and dielectric voltage withstand test and temperature rise test of electric and electronic products based on national standards and IEC standards, and the full power test for 150 kW inverters with a weight of 6,000 kg at high and low temperature.

Testing capability in mechanical environment

The mechanical environment testing system meets the requirements of vibration and shock testing of electric traction system and equipment, network control system and equipment, and other products for locomotives. It is also capable of conducting vibration test and data analysis for on-site operation. It has comprehensive portfolio of environment and sustainability testing of parts and leading testing capability in the industry.



Electromagnetic compatibility laboratory

Electromagnetic compatibility laboratory is capable of conducting tests on the strength of magnetic field, electromagnetic radiation, disturbance voltage at power supply end and disturbance current. The testing frequency of the EMI testing system is 18 GHz, while that of the EMS testing system is 8GHz. It is capable of conducting radio-frequency and electromagnetic field radiated immunity test at 30 V/m, which covers the 4G and 5.8G fields.



Network and wireless laboratory

The network and wireless laboratory has formed the leading network consistency testing system, wireless communication testing system and point responder testing system in the PRC. With environmental collection, image processing, distributed database and other advanced technologies, it is capable of conducting consistency test of route network communication products for urban transit, locomotives and EMUs, dynamic simulation test of on-board WiFi and wireless communication equipment and other tests.



After-Sales Service

The Company has always upheld the service philosophy of providing “fast, effective and satisfactory” services, and has established the “Green Shade Service” brand. We have registered the only “Green Shade” after-sales service trademark in the domestic rail transit industry, with the purpose of responding to customer demand in no time, and providing customers with a full range of services in a standardized and orderly manner. With our leading technologies and after-sales service system, as well as the three-level service management model for after-sales services, under which the service network is linked up by the Company’s service headquarters, service office and service station, we take the personalized demand of our customers into consideration, striving to meet their needs in terms of quality, efficiency, service, cost and other aspects. We are committed to becoming the preferred service and solution provider of electrical systems in the rail transit industry by offering customers impeccable product experience and a full package of services, thereby continuing to create value for ourselves and our customers.

After-sales service network

The Company continues to improve its service network to ensure quick response to customer needs, and develop innovative measures to improve service quality. In 2021, the Company pressed ahead with the building of its global after-sales service network, and realized full coverage of key customers, key regions and key products. Meanwhile, the Company has continuously optimized the overhaul market layout in accordance with the overall strategic plan of China Railway, and set up inspection and maintenance branches in Qingdao and Luoyang, as well as a number of regional inspection and maintenance bases across the country.

After-sales service fundamental management

We have continuously improved the efficiency of service management, and comprehensively optimized service organizations and the management process according to our operations, as well as the needs and characteristics of industry development. We have also developed the service and maintenance indicators according to the requirements of the Company’s digital operation strategy, and conducted end-to-end decomposition and control of KPI/PI indicators to ensure professional, efficient and high-quality customer service.

In 2021, in response to customer demand, we ensured customer satisfaction by keeping the promise that our staff would arrive at the scene within eight hours and solve problems within 24 hours.

In accordance with the ISO9000 and ISO/TS22163 Quality Management Systems, the Company has successively introduced the IPD management model and the CMMI for Services (CMMI-SVC) model, and continued to develop its after-sales service and delivery management system and the refined operation system in line with industry characteristics. With information management platforms such as the MRO (the Green Shade Service Platform) and OES platforms, the Company has applied information technology and visualization approaches to the unified command and arrangement of dispatching of resources to service sites/maintenance sites, monitoring of products’ technical status, incident warning and alarm, and tracking of problem handling, etc. Through back-end big data analysis and data penetration, we have realized the traceability and display of multi-dimensional information, and provided data for real-time and accurate decision-making to further enhance professional, refined and intelligent service management. These efforts have enabled us to meet the incident-changing needs of our customers and bring better customer experience. Through systematic planning and scientific implementation of after-sales service, we ensured the successful operation of the Lhasa-Nyingchi Railway and the China-Laos Railway, and were commended by our customers.

After-Sales service team management

The Company carried out the in-depth development of the talent echelon. The Company fully implemented the strategy of “polarization” and took various measures to cultivate maintenance/service technical experts. Through apprenticeship programs, skill competition, manager responsibility system, director rotation, supplier support, green shade service qualification certification and other forms of specialized management and technical personnel cultivation, the Company has created a team of “fine soldiers and strong generals”. There are more than 300 members in our after-sales service team, and each member has obtained relevant qualifications.

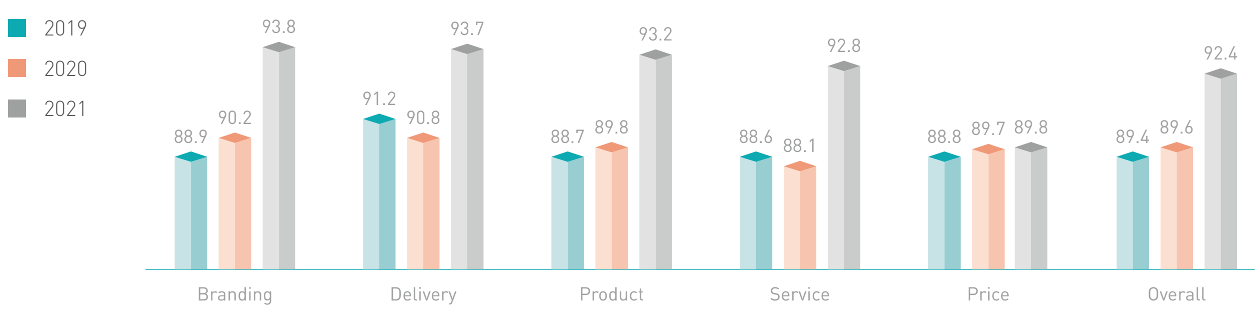
Customer Satisfaction Survey and Customer Complaints

The Company attaches great importance to customer feedback, and sets the continuous improvement of product and service quality and enhancement of customer satisfaction as its goal. We collect customers' opinions and suggestions on our products and services by different targeted means, including questionnaire surveys, interviews of customers, telephone inquiries and product promotion events, and immediately take corresponding measures to make improvements.

Customer satisfaction

In 2021, the Company conducted customer satisfaction surveys according to the overall customer satisfaction index as well as indicators about branding, delivery, product and service quality. According to customer feedback and survey data, the Company's overall customer satisfaction index was 92.4 points.

Results of customer satisfaction surveys



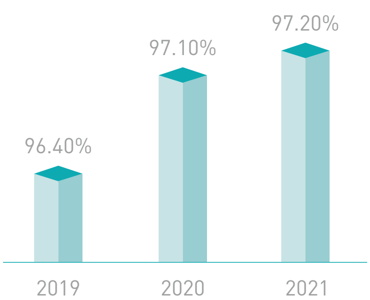
Customer loyalty

The data of customer loyalty includes the proportion of customers that are pleased and willing to continue to use the Company's products. In 2021, our customer loyalty was 97.20%.

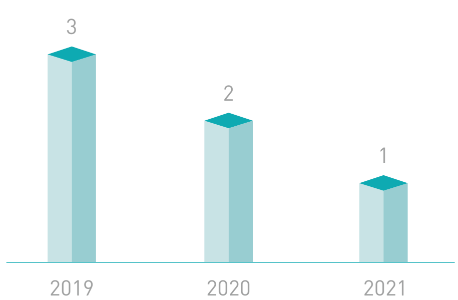
Customer complaints

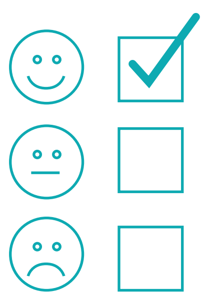
The Company attaches great importance to the settlement of customer complaints, and has established a customer complaint settlement team led by the quality management department. This team gives prompt response to each customer complaint, understands customer demands in a timely manner, conducts in-depth investigation of and analysis of problems, puts forth effective solutions and improvement methods, eliminates problems from the system operation, and replies to customers in a timely manner to ensure their satisfaction. In 2021, the Company resolved all customer complaints.

Customer loyalty



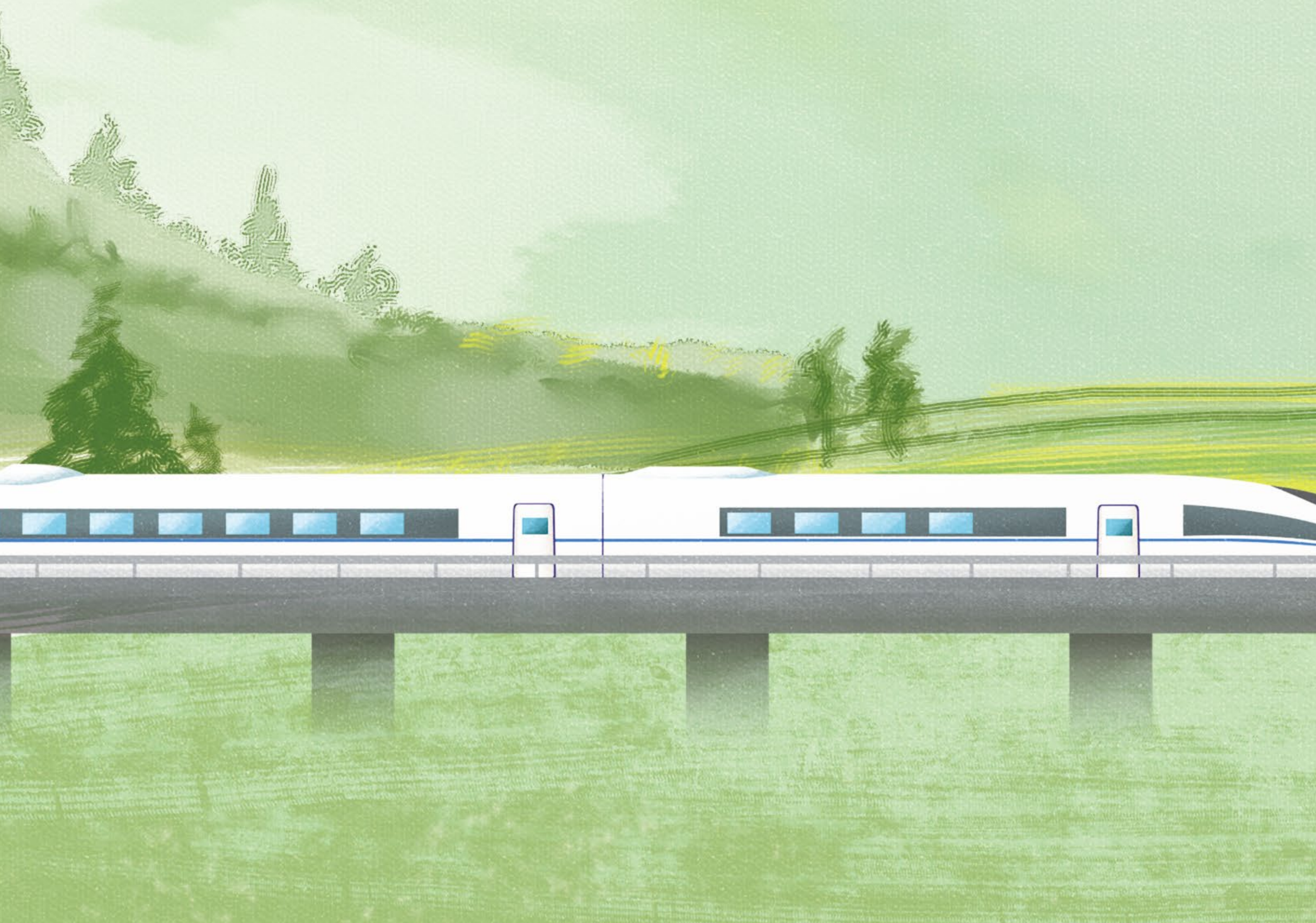
Number of customer complaints





Striving for a Low-Carbon Future Through Green Operation

To realize green development, CRRC Times Electric formulates environmental action plans and norms, improves the environmental management system, and facilitates ecological civilization with concrete actions. Our continuous efforts in improving our environmental protection practices contribute to society with greener mountains, bluer skies and clearer waters.





Better Environmental Management System

Putting people first, the Company continuously improves the environmental protection policy that advocates eco-friendliness, health and safety, and continuously improves the environmental management system. We strictly comply with regulations and rules on environmental protection and the discharge of pollutants, and enhance full-lifecycle management of assets to build a resource-saving and environment-friendly enterprise.

Description of environmental compliance


bsi.
Certificate of Registration
making excellence a habit

Environmental management system certification

Prior to the construction of a project, we conduct the environmental impact assessment, and would design, construct and put into use the project and its environmental protection facilities simultaneously. During production, operation and management, we abide by national, provincial, municipal, as well as ecological departments' laws, regulations and rules on environmental protection, obtain and convey relevant regulations and standards in a timely manner. In accordance with the latest regulations and standards, we conduct daily environmental protection management, fulfill our environmental protection obligations, and implement state guidelines and policies on energy saving and emission reduction. In 2021, the Company was not punished for any violations against environmental regulations.

We have successively formulated the *EHS System Management Manual, the Management Measures for Environmental Factors and Hazards, the Management Measures for EHS Targets, Indicators and Management Plans, and the EHS Incident Reporting, Investigation and Handling Processes,* and other environmental regulations. As of 2021, CRRC Times Electric developed one EHS manual, 39 sets of management measures, ten detailed rules, 14 procedures, and 11 contingency plans.

Development of environmentally friendly products

In 2021, driven by China's 30·60 Decarbonization Goal, the Company stepped up efforts in the development, resource integration and investment of emerging industries, such as semiconductors, electric drive systems for passenger vehicles, and power generation from new energy sources. We integrated the green and energy-saving concept into the whole lifecycle of our products, upheld CRRC's core brand idea of "green development," and vigorously promoted environmentally friendly materials and processes, creating green products for society.

In response to China's 30·60 Decarbonization Goal, the Company enhances the R&D of and increases input in green and energy-efficient products. We have launched major scientific research projects related to high-performance railway traction power supply, the electric system of the plateau dual-source power centralized EMU, and the subway CIMRES electromechanical system platform. These projects demonstrate our technological advances in the following aspects:

The regenerative braking energy utilization device of the high-performance railway traction power supply project significantly improves the quality of power supply and the overall energy efficiency. The device proposes a solution to the overall system structure and energy management of regenerative braking energy utilization based on the power integration of substations. According to on-site measurement, the device can help save an average of 12MWh of electricity per day.

The intelligent power supply system and energy operation control device in the subway CIMRES electromechanical system platform help maximize the efficiency of energy distribution of the subway power supply system and save no less than 5% of energy consumption of the traction power supply system. Overcoming the power flow control algorithm of the energy operation and control device, the project can reduce the no-load loss between multiple bidirectional converters by more than 90%.

Green Operation

Seizing the development opportunities brought about by China's 30·60 Decarbonization Goal for the industry, we integrate environmental protection, clean production and sustainable development into business operations, press ahead with technological innovation for new breakthroughs, and act to build a green and low-carbon industry ecology. In 2021, the Company saw no incidents of excessive or illegal emissions.

Energy saving and consumption reduction

In order to realize common progress of the ecological environment and society, we set our goals of green transportation and sustainable energy, and keep building a green manufacturing system, to provide safe and convenient power supply for society. In 2021, we revised the *Energy Management Assessment Rules*, which stipulates the standards of energy management assesment during production and daily office work, thus facilitating scientific energy management. Under the guidance of the document, we aim to control our comprehensive energy consumption target within 0.013 tce per RMB 10,000 yuan of output value.

In 2021

149.1 GWh
Electricity consumed

2.31 million m^3
Natural gas

1.72 million tons
Water Consumed

0.013 TCEs
Comprehensive energy consumption per RMB10,000 of output value

Energy saving and consumption reduction indicators

Indicator	2021
Electricity consumption (GWh)	149.1
Natural gas consumption (10,000 m^3)	231
Electricity consumption per capita (MWh)	19.281
Natural gas consumption per capita (m^3)	298.72
GHG emissions from natural gas combustion (tCO_2e)	4,994.53
GHG emissions from electricity consumption (tCO_2e)	6,773.61
GHG emission intensity per capita (tCO_2e)	1.52

Use of clean energy

Our own PV facilities have generated 1.6 GWh of electricity, and all our shuttle buses in the plant area are electric, contributing to GHG emission reduction.

Efficient energy saving and carbon reduction

Our continuous efforts in energy saving and cost reduction in the semiconductor and electromechanical segments has helped save RMB 5 million in costs per year, of which RMB 3.5 million is realized through negotiations over indirect power supply from electromechanical devices and semiconductor and the optimization of multi-connected machine group control, and RMB 1.4 million is contributed by the improvement of pure-water heat sources of semiconductors and water supply systems.

Use of energy-efficient equipment

We have phased out old lithium bromide units in the Technology Plaza, upgraded some old pump motors in our manufacturing center and testing center, and optimized the air-conditioning facilities in the combined plant and finished product warehouse in the manufacturing center.

Wastewater and waste gas discharge in compliance with standards

Industrial wastewater produced by the Company mainly contains ammonia nitrogen, fluoride, COD, and total phosphorus. According to the pollutant discharge permit, the level-3 sewage discharge standard shall apply. The organized exhaust gas tests of the Company cover chlorine, fluoride, ammonia, nitrogen oxides, sulfur dioxide, sulfuric acid mist, particulate matter, etc. In 2021, CRRC Times Electric entrusted an external test organization to test the wastewater, organized exhaust gas and noise from the Company at the end of each month, with each test covering three different test points. All the test results were up to the related standards, guaranteeing a pass rate of 100%.

In 2021, the Company actively carried out water conservation activities and conducted water balance tests. We fixed six leak points and improved facilities for the reuse of reclaimed water, saving about 80,000 tons and reusing 150,000 tons of water. The Company was thus recognized as a Water-Saving Enterprise of Hunan Province.


检验检测报告

精威检测（湖南）有限公司

The wastewater, waste gas, and noise inspection and test report of the Company

Indicators of wastewater discharge

Indicator	2021
Wastewater discharge (10,000 tons)	84.3
Wastewater treatment volume (10,000 tons)	81.7
Industrial wastewater discharge (10,000 tons)	81.7

Discharge of industrial solid and hazardous waste

In accordance with the National Catalogue of Hazardous Wastes and the environmental impact assessment (EIA) report, the Company categorizes waste into hazardous waste and industrial solid waste. We entrusted the treatment of hazardous waste to qualified third-party organizations with the permit for hazardous waste treatment, which treated 519.26 tons of hazardous waste produced by the Company in 2021. Industrial solid waste produced by the Company is mainly calcium fluoride-containing sludge, which will be used as an auxiliary material for producing bricks by qualified brick factories. In 2021, we disposed of 734.63 tons of calcium fluoride-containing sludge.

Discharge and treatment of industrial solid waste and hazardous waste

Treatment method	Waste discharge target (kg)			Total discharge (kg)		
	2019	2020	2021	2019	2020	2021
Reuse	-	100,000	150,000	-	88,330	100,860
Landfill	-	-	5,000	-	-	820
Others	211,000	230,000	522,000	191,510	195,970	417,580

100 %

Hazardous waste disposed of in compliance with related standards

100 %

Non-hazardous waste disposed of in compliance with related standards

Response to Climate Change

Global climate change is accompanied by various extreme weather events and could have serious impacts on economic and social activities. The Company actively responds to the demands of the government, investors and other stakeholders for climate change actions, identifies risks and opportunities associated with climate change, and continuously improves climate change management based on the identification results.

Climate change management system

Governance	• We establish a sound governance system to ensure that climate change risks can be deliberated by the Company's top-level management. • Climate change mitigation and adaptation is taken as one of the priorities of relevant business departments.
Strategies	• We carefully identify major risks and opportunities and assess their potential impacts on our operational and financial activities, and adjust the investment and product strategies correspondingly; • We implement proper management to ensure low-carbon operations and support the development of clean energy.
Risk management	• We plan to integrate the management of climate change-related risks into the operational risk management system.
Quotas and targets	• We disclose our GHG emissions and emission intensity in the social responsibility report every year, which can help evaluate the Company's climate change management performance and facilitate the formulation of improvement plans.

Environmental Awareness Enhancement

Attaching significance to the impact of business operations on the environment, the Company integrates energy conservation and emission reduction into all processes of daily management and operation and guides employees to develop environmental awareness and habits, so as to create an eco-friendly workplace. We install group control systems for lighting zones and air-conditioning terminals in the office building to realize the timing switch by the remote control. With these group control systems, we can also set a unified temperature, heating mode, and other parameters for the facilities, effectively reducing unnecessary energy consumption caused by lighting and air conditioning facilities after work. Besides, we encourage employees to participate in environmental protection-oriented public welfare activities, including afforestation, low-carbon travel, garbage sorting, reuse of old items, environmental training, etc., and guide employees to contribute to environmental protection in every detail of life and the construction of a green homeland.

Comprehensive Social Governance

The Company continuously solidifies the foundation of social security and pursues safe development. We strive to build an efficient and well-organized internal comprehensive "four-in-one" security management system supported by related personnel, facilities, technologies and regulations, strengthen the implementation of security rules, guidance for security work, security services, as well as safety inspections and assessments, so as to maintain safety and stability of the Company from all aspects. In 2021, we found two major hazards through safety inspections and spent RMB 13,800 of governance funds on the rectification.

Emphasizing management responsibilities

In compliance with the principle of "combining prevention and control" and adhering to the goal of creating a safe enterprise, we have always maintained a focus on stabilizing and standardizing daily work. We make every effort to control and prevent risks in key areas and processes, adjust work organization in a timely manner, and enhance employees' awareness of safety responsibilities, comprehensively promoting the safe development of the Company.

Improving the road safety management system	We have established a road safety system to guide in-depth implementation of the Company's road safety work. In addition, we strictly performed our functions of daily supervision, inspection, evaluation, and assessment management, and comprehensively promoted the standardized and orderly implementation of road safety management.
Shuttle bus safety management	We ensure that all employees on shuttle buses wear masks and conduct irregular safety inspections of shuttle buses. In 2021, we conducted a total of 12 safety inspections of shuttle buses, organized timely rectification of problems, and carried out closed-loop review of the rectification result.
Traffic safety management	We strictly investigate violations against traffic rules, including not wearing helmets when riding motorcycles or electric bikes. To ensure safe operations of traffic facilities in the factory, we conduct comprehensive investigations into the facilities' conditions and defects, and formulate detailed rectification and improvement plans to guarantee efficient traffic safety management and control traffic risks.
Publicity of safety laws and regulations	By stepping up our efforts in reminding employees of traffic safety-related matters and publicizing traffic laws and regulations, we significantly improve employees' self-protection awareness and ability to deal with problems related to traffic safety, fire safety, and internal security.





Functional departments signed the *Annual Safety Work Responsibility Statement*

Enhancing emergency prevention

Upholding the policy of "safety first, precaution as the focus" and in accordance with the principle of "the person in charge takes responsibilities," we strengthen the management of fire safety work and enhance related publicity efforts. Regarding improving employees' fire safety awareness and self-protection and self-rescue ability as the primary goal of safety work, we establish an efficient emergency response mechanism and ensure that the Company conducts safety inspections, rectifies hazards and undertakes safety responsibilities independently. In 2021, there were no Class I or Class II fire accidents.

Implementing the fire safety responsibility system

We formulate annual plans for fire protection work and divide fire safety responsibilities level by level to ensure targeted and efficient management and supervision of fire safety work. We also make special arrangements during special periods and important holidays to ensure thorough implementation of fire safety responsibilities.

Eliminating fire hazards

We have invested RMB 300,000 in putting up evacuation signs and installing emergency lighting in Times Technology Building and in the maintenance of such facilities to ensure that all fire prevention facilities in all buildings are in good condition.

Carrying out training on joint firefighting

We carry out centralized training centering on joint firefighting operations, fire emergency response, the performance of fire safety facilities, and daily fire safety inspections.

Strengthening emergency awareness

Based on the performance of participants in emergency drills, the Company updates and revises the overall contingency plan and formulates targeted emergency response plans in detail, so as to make sure that the plans can better reflect the reality of the Company and more scientific, rational and operable. To continue to strengthen the supervision, direction and assessment of security and emergency response teams, we organize emergency drills under the themes of "fire emergency evacuation" and "stability maintenance and emergency response" to improve the team's skills in handling and preventing risks and enhance the Company's emergency response and management capabilities.



The fire emergency evacuation drill

Sharing Development Fruits with Employees

Employees are an important part, and also the most valuable asset of the Company. Being people-oriented, CRRC Times Electric protects the basic rights and interests of employees, unblocks career development and promotion channels for the talents, and carries out multi-level, multi-form and multi-dimensional employee training to care for the health and life of employees and share the Company's development fruits with them. In 2021, the Company was not subject to any administrative penalties due to non-compliance with any employment and labor standards, nor was there other major violation of relevant laws and regulations.





Protection of Employees' Rights and Interests

Diversified Employment

In strict compliance with the *Labor Law of the People's Republic of China, the Labor Contract Law of the People's Republic of China* and the *Law of the People's Republic of China on the Protection of Minors*, the Company pursues equal employment, bearing zero tolerance for any discrimination against the staff on race, region, gender, disability and nationality, and forbidding the employment of child labor and forced labor in any forms. The Company carries out regular labor inspections and random checks on employment. In 2021, the Company did not employ forced labor and was not involved in any employment disputes, and no employee shutdown or collective strike happened in the past three years.

Current Employment Overview

By the end of 2021, with a stable employment situation, the Company executed labor contracts with 7,733 employees in total (including all subsidiaries in China with consolidated accounting statement). The types of employment are full-time employees. Over the last three years, the employee turnover rate was maintained at below 5%, and was only 4.56% in 2021. The turnover rate of male employees was 4.05%, while that of female employees was 0.51%.

7,733
Total number of Employees in China

501
Staff from Foreign Countries

including

2
Staff with Disability

282
Employees of Ethnic Minority Backgrounds

377
Number of new employees

Employee turnover（By age unit:percentage)

Gender	Employee turnover rate in 2021
25 years of age or younger	0.69
26-35 years of age	1.46
31-35 years of age	1.46
36-45 years of age	0.54
41-45 years of age	0.24
46-50 years of age	0.13
51 years of age or older	0.04

Employee turnover（By region unit:percentage)

Area	Employee turnover rate in 2021	Area	Employee turnover rate in 2021
Hunan	1.91	Guangxi	0.09
Jiangxi	0.31	Sichuan	0.08
Zhejiang	0.26	Inner Mongolia	0.07
Hubei	0.21	Heilongjiang	0.07
Henan	0.18	Jilin	0.07
Shanxi	0.16	Yunnan	0.05
Anhui	0.14	Guangdong	0.05
Gansu	0.14	Fujian	0.04
Hebei	0.14	Guizhou	0.04
Liaoning	0.12	Chongqing	0.03
Shandong	0.12	Beijing	0.01
Shanxi	0.12	Hainan	0.01
Jiangsu	0.10	Overseas	0.04

Employees by gender (unit: headcount)

Gender	2021
Male	5,929
Female	1,804

Note: the statistics in the above table only include the employees in China.

Table 4-3 Employees by age group (unit: headcount)

Age	2021
25 years of age or younger	390
26-35 years of age	3,761
36-45 years of age	2,564
46-50 years of age	516
50 years of age or older	502

Note: the statistics in the above table only include the employees in China.

Employees by educational backgrounds (unit: headcount)

Educational backgrounds	2021
Master's degree or above	1,521
Bachelor's degree	4,717
College and junior college	1,495

Note: the statistics in the above table only include the employees in China.

New and resigned employees of the Company (unit: headcount)

Year	2021						
Category	Gender		Age				
	Male	Female	<25	26-35	36-45	46-50	>50
New employees	355	22	169	194	14	0	0
Former employees	310	39	52	225	59	10	3

Note: the statistics in the above table only include the employees in China.

Employees by area (unit: headcount)

Area	2021
Hunan	4,236
Shaanxi	532
Jiangxi	378
Hubei	307
Henan	272
Gansu	230
Zhejiang	222
Shanxi	220
Shandong	210
Hebei	173
Sichuan	143
Liaoning	124
Jiangsu	115
Anhui	95
Guangxi	60
Chongqing	56
Jilin	52
Heilongjiang	47
Yunnan	45
Guizhou	44
Inner Mongolia	33
Guangdong	32
Beijing	24
Shanghai	19
Fujian	18
Qinghai	12
Ningxia	11
Tianjin	11
Xinjiang	8
Hainan	4

Staff Recruitment

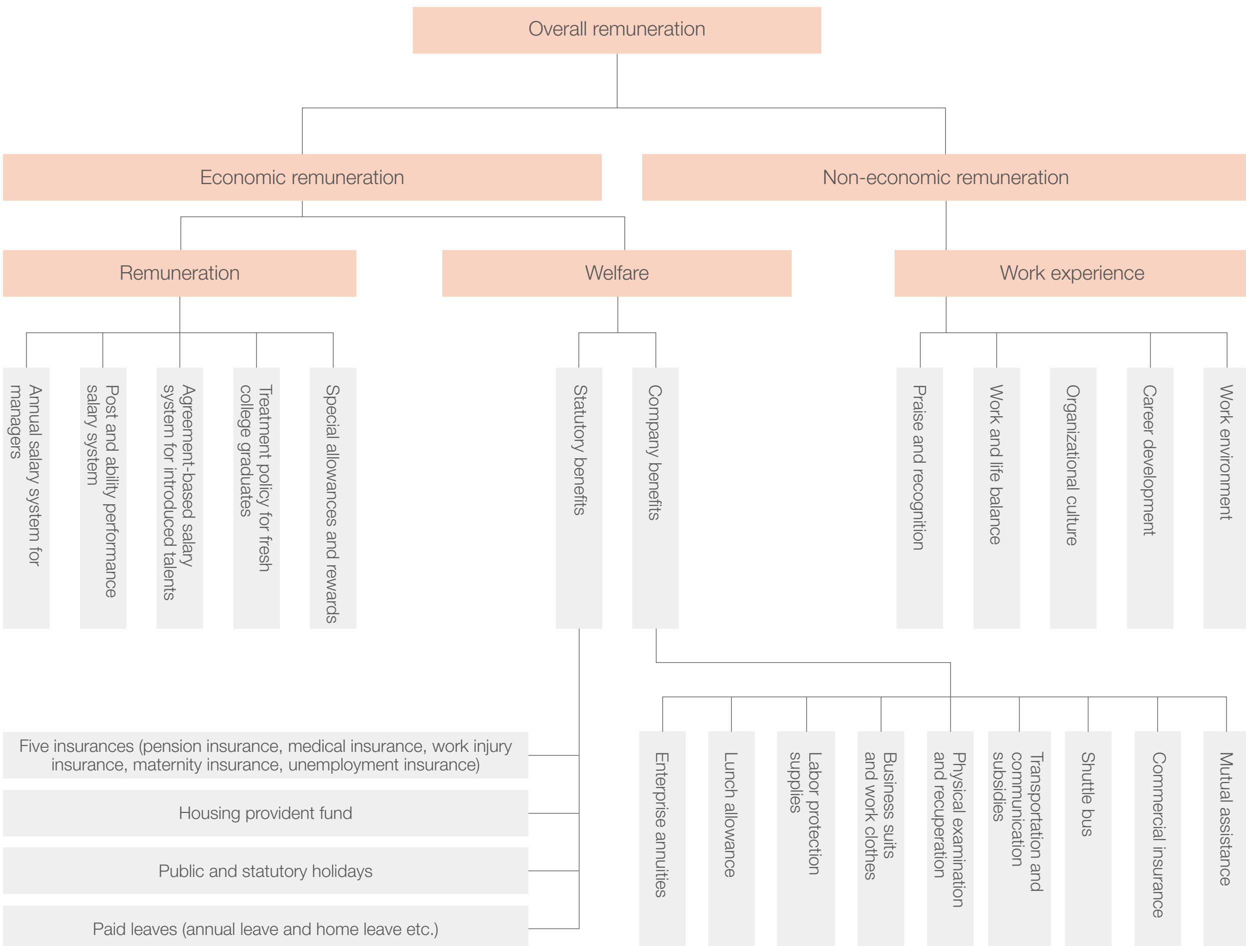
The Company maintained a sound staff recruitment process in accordance with the requirements under the Labor Law, the Labor Contract Law, the Law on the Protection of Minors, the Law on Protection of Rights and Interests of Women and the relevant laws and regulations, and strictly carried out reviews on the basic information of job applicants. The Company forbids the employment of child labor and forced labor, and adheres to the principle of equality between men and women. The Company does not discriminate against staff on nationality, race, age, gender and marital status.

The Company has established various recruitment channels based on different needs of talents for various positions, including internal recommendation, internal recruitment, open recruitment and campus recruitment. It also introduced innovative measures to conduct recruitment of skilled talents and overseas talents in various aspects such as railway signaling, rail transport digitalization and intelligence, maglev, electric motor system for passenger trains, deep water equipment, semi-conductor, intelligent inspection robot and new energy, which will provide the Company with talents supporting its major industrial development. In 2021, the Company completed internal mobility of 241 people, recruited 135 people to meet social recruitment needs, recruited 195 people to fulfil university recruitment needs.

Staff Salary and Benefits

The Company has, based on the *Labor law*, the *Labor Contract Law* and other laws and regulations, formulated systems like the *Employment Management Measures*, *Payroll Management Measures*, *Salary Payment Management Measures*, *Employee Performance Management Measures*, *Employee Overtime Management Measures*, *Employee Attendance Management Measures*, *Management Measures for Reemployment after Retirement*, *Personnel Exchange Management Measures for Key Posts*, *Management Measures for Restriction of Competition*, *Punishment Measures for Employees Violating Rules and Disciplines*, and *Management Measures for Internal Early Retirement*. The Company treats every employee equally, with no gender discrimination in human resources management system and labor contracts. In accordance with the relevant provisions on the protection of women's rights and interests, the Company safeguards the rights of female employees during the three periods of pregnancy, labor, and nursing. For example, the Company shall not terminate the labor contracts of female employees during their maternity leave, breast-feeding leave, and the three periods.

The Company promotes the concept of overall remuneration. It has extended the concept of remuneration to include welfare and other non-economic rewards such as honors, career development, etc. Accordingly, the staff can have a comprehensive understanding of the returns given by the Company, which attract and retain talents for the Company. The wages of our employees are all higher than the local minimum wage standards as the minimum wage of the Company's headquarters in 2021 reached 1.7 times that of the local minimum wage standard.



Our salary and benefits

In accordance with the requirements of national and local laws and regulations, the Company provides and maintains statutory benefits for its staff, including basic endowment insurance, basic medical insurance (including medical insurance for serious illnesses), work injury insurance, maternity insurance, unemployment insurance and housing provident fund, etc. It also provides the staff with various Company benefits, including enterprise annuities, supplemental medical insurance, lunch allowance, health allowance, physical examination and recuperation, mutual assistance and commercial insurance. In addition to weekends, public holidays, marriage and funeral leave, maternity leave and other holidays, the Company also implements an annual leave system which is consistent with national Regulations on Paid Annual Leave and Implementation Measures for *Paid Annual Leave for Corporate Employees*. In 2021, the Company turned to dispatched workers to assume the assistant, temporary or substitute posts. Under the unified organization, we implemented the collective procurement of labor dispatch and selected high-quality suppliers to provide services. The dispatched workers enjoyed the same salary and welfare policy with our contract-based employees.

Democratic Management and Communication

The Company values the opinions and suggestions of employees, and continuously strengthens the communication with employees. The Company holds the Workers' Congress to disclose company affairs, and then carries out democratic supervision to unblock the communication channels for employees. Also, we protect employees' rights of democratic communication by promoting the collective consultation system and signing collective contracts.

Convening Workers' Congress

Based on the principle of democratic centralism, the Company established its Workers' Congress system in accordance with relevant requirements under the *Trade Union Law*. The Council of Trade Union is the operating authority of the Workers' Congress and is responsible for the daily work of the Workers' Congress. It has 149 existing staff representatives elected democratically from cadres (staff) in various departments (units), involving personnel from various fields of the Company, such as management, technology, production and marketing. The Workers' Congress system has strengthened the Company's democratic management effectively, guaranteed the rights of staff to exercise democratic management according to the law, fully utilized staff's motivation and creativity, and therefore effectively enhanced our enterprise quality and economic benefits. In 2021, the opinions and suggestions received at the Workers' Congress, after collection and processing, mainly involved issues such as labor management, cost reduction and efficiency increase, livelihood measures, talent flow and cultivation, and industrial development.

Company Affairs Disclosure

The trade unions at all levels of the Company earnestly implement the company affairs disclosure system, in accordance with the four principles of seeking truth from facts, diversified forms of open supervision, depending on the time and situation, and the unity of openness and supervision, and handle the major issues of the Company production and operation, the integrity and self-discipline of leading cadres, the disposal of major assets, etc. Publicity was carried out through the platform of congress, Party Committee, decision-making committee, daily administration, and regular meetings of the Party and documents.

Implementing Democratic Supervision

In 2021, the Company communicated with relevant departments to collaboratively solve problems based on the opinions and suggestions from frontline staff, after reviewing eight documents and systems related to the interests of employees, such as the Management Measures for Personnel Waiting for Job Assignment in the Personnel Exchange Center and the Salary Management Measures.

Number of contract-based employees	Number of employees signing collective negotiation agreements	Proportion of employees signing collective negotiation agreements (%)	Number of female employees among contract-based employees	Number of employees signing the agreement for the protection of female employees	Proportion of employees signing the agreement for the protection of female employees in all contract-based female employees
7,733	7,733	100	1,804	1,804	100

Staff Training and Development

Staff Training Management

Talents are the core competitiveness of the Company and play a critical role in corporate development. In 2021, the Company valued the cultivation and development of talents. Based on the position and development strategy of the Company, we focused on the empowerment and practice of performance management optimization, and the implementation of business strategy and digital-electrical projects. We carried out the training for reserve talents, frontline staff and international talents, profiling and training for ideal positions based on business scenarios, and other training activities. By providing different trainings with different tutors, we developed various core talent teams.

In 2021, the Company continued to innovate in the existing training management and system development. Based on the extensive training demand survey and study, the Company matched the development ability of courseware and other teaching resources with training qualifications, and actively allocated its resources and arranged a variety of training by engaging internal and external lecturers. At the same time, the Company ensured the implementation of training projects. Moreover, the Company encouraged independent design based on three levels of learning, namely position, competence and career development to integrate resources of internal and external programs in order to help enhance employees' motivation, ability and perseverance with more specific targets and directions. Besides, based on the training systems with multiple types and levels, the Company began to establish the brand image of the training center among employees, customers and other companies.

Year	Total investment in training (RMB 10,000)	Training hours per trainee (hours)	Total trainees	Training projects completed	Implementation rate of the annual training plan(%)
2019	1,073	45	8,000	2,026	93.52
2020	800	45	8,000	> 2,000	92.26
2021	869	45	8,000	> 2,000	92.26

Implementation rate of the annual training plan（By employee unit:%）

Category	2021
Senior management	90.01
Middle management	91.30
Junior staff	92.50

Training hours per person (by type of employee)

Category	Number (person)	Learning hours (hours)
Senior management	63	40
Middle management	1,607	42
Junior staff	6,063	42

Training hours per person (by gender)

Employees' gender	Number (person)	Learning hours (hours)
Male	5,941	45
Female	1,792	42

Staff's Career Development

With a clear selection and employment orientation, the Company has strengthened the selection of cadres and built smooth and equal career development paths for employees, thus providing a broader development stage for talents.

Innovation Studios

To play the leading role of studios and care for the personal growth of employees, the Company has established two production and manufacturing innovation studios, one after-sales innovation studio and two technical model worker innovation studios. The Company has formed the mode for technological breakthrough from technology, manufacturing and after-sales, including "1531" for intelligent technology and charging, "113" for ballasting intelligent manufacturing, "two attacks and two cooperation" for the long-term development. Also, the Company has formed the talent cultivation mode, including the "1 + N" multidisciplinary training platform, "industry-university-research" differentiated intellectual resources and "three strives and three evaluations" diversified creative forces (organizations strive to be advanced, CPC members strive to be excellent, cadres strive to be models and evaluation by mass, evaluation by comparison and evaluation by the organization). In 2021, The company completed 19 key research projects and 3 patents, reducing the cost by RMB 6.82 million. The Company also cultivated 16 reserve talents for IPC, 95 multi-skilled workers, 44 senior workers, 30 technicians and 17 service development talents.

Efficient Talent Team Development

In 2021, the Company took the lead in launching and implementing the "two systems and one contract" (tenure system, appointment system and contracting) for the Company's professional managers, completed the selection of professional managers for relevant posts, and established a market-oriented assessment and incentive mechanism. The Company formulated short-term, medium-term and long-term incentive schemes based on its "double-hundred action" (The "Double Hundred Action" is one of the special actions organized by the State Council to select more than 100 subsidiaries of central enterprises and more than 100 local state-owned key enterprises to carry out the reform of SOE) and specific incentive schemes were implemented in two industrial units.

Established Career Development Paths

In order to further standardize the cultivation, selection and evaluation of talents, the Company has established the standard and benchmark of career development. By encouraging employees to improve themselves with the qualification standard, the Company enabled each staff to "do well in what they like, realize what they dream and get what they deserve", so as to cultivate a high-quality professional talent team to promote the Company's sustainable development.. In 2021, the Company provided different career development paths for employees in various professional fields based on the job categories.

According to the Company's human resources development strategy as well as the pattern and characteristics of talent growth, the Company encourages employees to improve their ability and professionalism step by step based on the qualification standard. The company divides the career development paths into several layers. There are seven layers from top to bottom: S, T, A, B, C, D, E, which are subdivided into three levels at each layer (except for layer S). For example, layer T is subdivided into three levels: T1, T2 and T3. Therefore, the 19 career development levels from top to bottom are S, T1, T2, T3, A1, A2, A3, B1, B2, B3, C1, C2, C3, D1, D2, D3, E1, E2, E3.

Two persons of CRRC Zhuzhou Institute awarded the Excellent Entrepreneur CASE

On June 2, 2021, Zhuzhou city held a commendation conference to award 15 excellent entrepreneurs who made outstanding achievements and contributions in 2020. Liu Kean, Vice Chairman of the Company, won the title of Excellent Entrepreneur of the Province.

CRRC Times Electric held the second lean R&D design competition CASE

In order to meet the Company's requirement for development and popularize and deepen the concept and method of lean R & D, the Youth League Committee of CRRC Times Electric and the Quality Management Department of the Company held the second lean R & D design competition themed "improving by lean R & D" on February 8, 2021, as a way to improve the overall competitiveness of our products and customer satisfaction, and guide all of our young employees to make contributions on their posts.

Occupational Health and Safety

Caring for the physical and mental health of employees, we provide employees with various protections and services including national statutory labor protection and the Company's supplemental labor protection, as well as services such as health monitoring, health guidance, and workplace disease diagnosis and treatment, including TCM diagnosis In 2021, we signed the Collective Contract and the *Collective Contract for the Protection of the Rights and Interests of Female Employees*, In accordance with the *Law on Work Safety*, the *Law on Prevention and Control of Occupational Diseases* and other relevant laws and regulations, we improve the organization for work safety supervision and management, enhance the occupational health and safety rules and regulations to protect the safety and health of employees.

Safety Policy

The Company adheres to the occupational health and safety policy of "people first, continuous improvement, environmental protection, health and safety". The Company has, in accordance with the provisions of the *Law on Work Safety*, the *Law on Prevention and Control of Occupational Diseases*, the *Trade Union Law*, etc., improved the organization for work safety supervision and management, improved the occupational health and safety rules and regulations and fulfilled the accountability of work safety. By ensuring the effective investment in work safety, the Company has provided employees with places, facilities and personal protective equipment that meet the requirements of relevant national laws, regulations and standards on work safety, so as to guarantee the safety and health of employees. In 2021, RMB 2.32 million was invested to provide physical examination services for more than 2,500 times in accordance with the Company's physical examination management measures.

In 2021, there were no accidents involving deaths and serious injuries in the Company. There were also no Class I fire and explosion accidents, material and liable traffic accidents, and other accidents with material effects. Generally, we kept sound work safety. Besides, we did not violate relevant laws and regulations on safe working environment and the protection of employees from occupational hazards.

Work injury data	Types of employees	Male	Female
Types of work injury	Regular employees	1	1
	Dispatched workers	0	0
Lost days due to work injury	Regular employees	41	36
	Dispatched workers	0	0
Lost day rate (LDR)	Regular employees	16.40%	14.40%
	Dispatched workers	0	0

Safety System

To promote its safety work, we focus on the overall objectives of technological research, operation, production and management to consolidate our safety foundation for development. We have signed the *Annual Safety Responsibility Statement* to comprehensively maintain the safety and stability of the Company, thus ensuring the realization of “nine zeros” important indicators and key objectives for the Company and our subordinate units.

The Company has implemented safety production responsibility at all levels in 2021. the Company signed the *2021 Safety Management Objective Responsibility Letter*, which clarified the annual safety assessment indicators. The professional managers of each division have paid a security risk deposit of RMB 1.01 million to the Company. The Company has actually invested over RMB 40 million for the labor protection fee and safety production cost, which are used for employees’ occupational safety and safety hazard rectification.

Safety Culture

We continuously strengthen the work safety and health education and training for all employees, the three-level safety education for new employees and the training and review of special (equipment) operators. The trade union actively cooperates with the Company’s safety training to improve employees’ skills and safety awareness. In 2021, we carried out the "Ankang Cup" Competition to strengthen the development of corporate safety culture, raise employees' safety and health awareness, and improve their work safety skills, thus promoting standardized and scientific occupational health and safety management.

Care for Staff's Life

Colorful Life

To continuously motivate employees, the Company assists employees to balance work and life through colorful cultural and sports activities, and helps employees with difficulties so that they can grow together with the Company and share our values and achievements as well.

In 2021, the Company set up clubs and associations to carry out a series of activities to care for the growth of employees both physically and mentally. The Company invited experts from hospitals to give special lectures and share the prevention and treatment of high-risk diseases for people of different ages, so as to guide employees to pay more attention to their physiological conditions. The Company carried out the "happy virtual lecture" activity with courses such as parent-child education, stress management and marital relationship to enhance employees' problem-solving skills and their endogenous power. Also, the Company organized some interesting activities such as the "roast meeting" to provide psychological counseling to employees, help them relieve their stress and enhance their self-confidence as well as their enthusiasm for work and life.

A virtual party held to enhance cohesiveness

CASE

Since the Company's employees were unable to have offline gatherings during the Spring Festival in 2021 due to the COVID-19 pandemic, the trade union of CRRC Times Electric organized a unique "virtual party" to create a happy atmosphere for the festival and convey our blessings. The activity not only enriched the cultural life of employees after work, but was also conducive to enhancing the cohesiveness of the Company as well as employees’ sense of belonging.



"Free practice" virtual live courses of Lingyun Yoga Club, organized by the trade union of the Company



The "Empowerment ·vitality, happiness sharing" activity by the trade union of overseas business divisions

The "virtual lecture" by the trade union

CASE

In order to care for female employees on a regular basis and solve practical work and life problems for them about occupational health, humanistic care and psychological counseling, the trade union of the Company carries out the "happy virtual lecture" activity irregularly with the theme of "leading a wonderful life with self-confidence" to enhance the sense of happiness and belonging of female employees.



"Happy virtual lecture" activity by the Company

The sixth Waxberry Carnival held by Times Electric Semiconductor

CASE

To celebrate the centenary of the CPC, enrich the cultural life of employees and enhance team cohesiveness, Times Electric Semiconductor held the Waxberry Carnival on June 20, 2021, with the theme of celebrating the centenary and striving for new achievements. Relevant principals of the trade union of CRRC Zhuzhou Institute and members of the operation team of Times Electric Semiconductor as well as over 500 employees and their family members participated in the activity. It was not only a waxberry feast exclusively for summer, but also an important carrier to enhance team cohesiveness and show corporate culture and staff spirit. The unremitting efforts of all employees over the last decades have created a group building brand with its own feature, and have also contributed to the thriving power semiconductor industry.

Support for Staff

The Company provides assistance for major diseases of employees and their families.

The Company carries out colorful courses and activities, such as holding a retirement ceremony for retiring employees, so that retired or retiring employees can feel the warmth from the Company and have a smooth transition.

Creating Better Life Hand in Hand

Committed to social welfare, CRRC Times Electric actively carries out volunteer assistance and constantly strengthens communication and complements resources with governments, institutions and partners so as to share development fruits and build a harmonious society.





Responsible Supply Chain

Supply Chain Management

Policies for Managing Environmental and Social Risks of Suppliers

To achieve the target of “high quality, low cost and quick response”, CRRC Times Electric implements supply chain management based on the current situation and conditions of the supply chain in the industry, and formulates the supply chain management policy of “reliable performance, optimal cost and flexible supply” to cope with the environmental and social risks and challenges brought by suppliers.

Supply Chain System

The Company continues to strengthen supply chain management by establishing a transparent procurement mechanism, improving supplier management, and setting up a complete procurement management system covering demand planning management, source finding and price management, contract management, procurement execution management, category management and supplier management. The Company had a total of 697 key suppliers in 2021.

Type of supplier	North America	Europe	Asia (excluding China)	China (including enterprises registered in mainland China, Hong Kong, Macau and Taiwan)	Total
Agents	0	-	-	135	135
Traders	0	1	-	19	20
Manufacturers	1	17	4	521	543
Total	1	22	4	675	697

Supplier Admission Process

CRRC Times Electric has developed a special *New Supplier Admission Process*, the main procedures of which are: online registration and supplementing enterprise qualification information, developing new supplier development plan, signing of cooperation agreements *(Confidentiality Agreement, Quality Assurance Agreement, PCN Agreement, Supplier Code of Conduct, Material Framework Procurement Contract Agreement, Supplier Admission Cooperation Response Agreement and Integrity Statement)*, implementing on-site supplier certification (on-site certification of suppliers in technical, quality and commercial aspects with special audit on environmental impacts and labor employment), supplier rectification, approval of suppliers for trial production, approval of temporary suppliers and approval of qualified suppliers.

Supplier Performance Evaluation

The Company manages and updates the qualification certificates of suppliers through the SCM system. Further, the Company strengthens supplier management by conducting regular on-site audit on main suppliers. 148 suppliers, or 21.8% of our suppliers were audited in 2021.

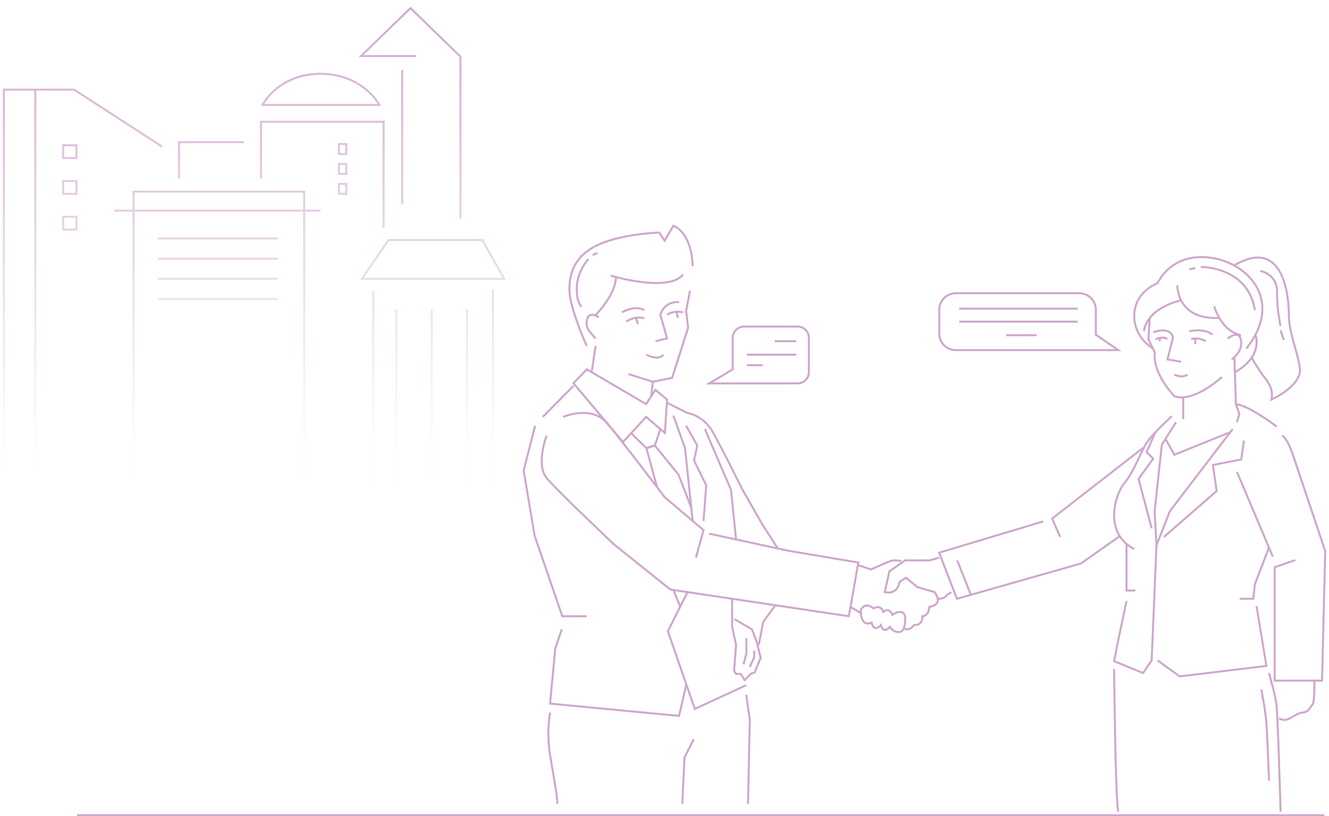
Responsible Procurement

EHS Certification Required for Suppliers

To promote standardized, transparent and fair procurement, the Company specifies in the business certification of the *New Supplier Admission Process* the items required to be audited in the supplier's EHS system. According to the process, all newly admitted manufacturers shall receive on-site certification (EHS certification). For previous suppliers, on-site certification (EHS certification) is conducted regularly. Suppliers are required to provide necessary certificates, safety and environmental protection data, test reports and other information in accordance with national regulations, standards and other requirements. Also, the Company states clearly that suppliers shall implement whole-life-cycle hazard (source) management on their products, and supplier's factory shall conduct a comprehensive factory assessment to identify and record the safety risks of facilities and equipment as well as the occupational health of employees.

Supplier Training

The company's public bidding meeting has stipulated the "environmental requirements" in the technical specifications and suppliers are required to respond to them. The Company also organizes regular on-site training and virtual remote training for suppliers.



Engagement in Public Charity

Always committed to public welfare, CRRC Times Electric makes its efforts to benefit the people's livelihood and contribute to the society with gratitude.

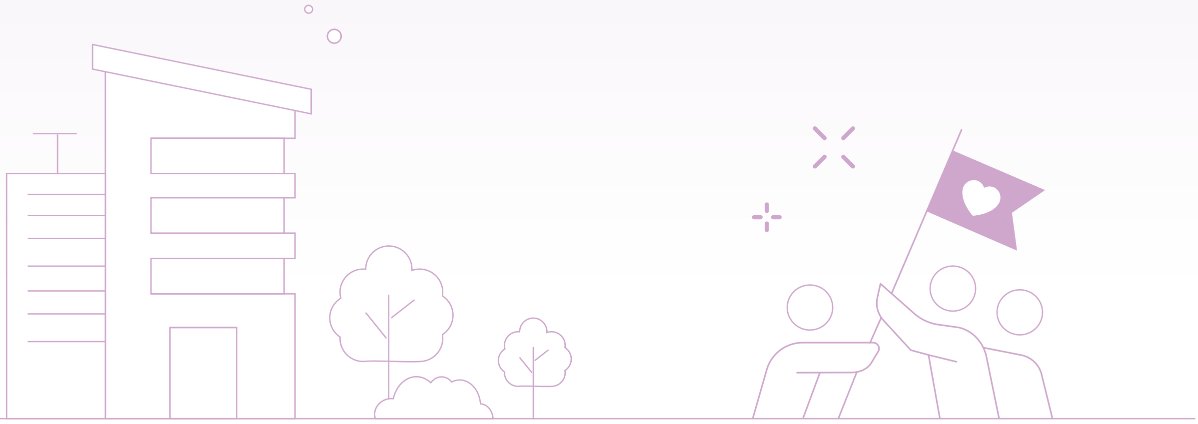
Based on the actual needs of the Company, each basic League (general) branch of the Company has carries out 16 corresponding voluntary services according to the actual situation of each business unit,

Education Supporting Activity Launched to Facilitate Children's Dreams

On November 19, 2021, the Party members from the manufacturing center of CRRC Times Electric arrived at Baishi Primary School in the remote mountainous You County for a student aid campaign for the fourth consecutive year. Through the campaign, the Company donated hundreds of books, basketball stands, and other sports goods to the school, and gave scholarships to outstanding students. As the saying goes, “the fragrance of the rose lingers on the hand that casts it.” The Party members and other loving participants in the campaign put the donated books and sporting goods into the library, awarded scholarships to outstanding students and took a group photo with them. Though more than one-third of the students at Baishi Primary School were left-behind children without parents around all year round, they showed the same innocence as other students regardless of the harsh conditions. The participants deeply felt the children’s innocence and joy, and were really proud to bring the books to the students and improve the conditions of the school through their donations. The campaign also enriched local students’ understanding of the meaning of life and would help them realize their dream destinations.



Education Supporting Activity



Youth Volunteer Team Set up to Fight against COVID-19

In August 2021, Zhuzhou was facing severe challenges of COVID-19 prevention and control. As the Communist Youth League would take quick action in response to the call of the Party, the Youth League Committee of the Company took quick actions and made a unified plan from the aspects of voluntary service, post responsibility, and psychological counseling in order to contain the spread of COVID-19 and win the battle against the virus. Youth League organizations at all levels responded positively and carried out various effective COVID-19 prevention work based on their actual situations. The health declaration QR code of many young employees turned yellow during the pandemic since the Company's apartment was close to the medium risk area. In order to solve the problem that young employees were unable to eat out due to the "yellow QR code", the Communist Youth League of CRRC Times Electric quickly set up a youth volunteer team to provide meal delivery services every day to the "yellow QR code" employees in the apartment, and assist the apartment management personnel to observe the nucleic acid testing needs of young employees. During the pandemic, young volunteers brought warmth and strength to everyone and made their contributions in the frontline of COVID-19 prevention.



Voluntary meal delivery

Providing Regular Voluntary Services Based on Actual Needs

March 2021 was 58 "Learn from Lei Fengyue" in order to spread the volunteer spirit of "dedication, friendship, mutual assistance and progress", the electric Youth League Committee of The Times led the grassroots youth league organizations to carry out Lei Fengyue themed activities, such as the "raw material sorting activity in IGBT Park" by the League general branch of Times Electric Semiconductor, and the "IT voluntary service activity" by the League general branch of the administrative office of CRRC Times Electric with the advantage of its information center. The Youth League Committee of CRRC Times Electric will continue to provide regular voluntary services, so as to practice the spirit of Lei Feng in our daily work and study, and guide young people to be like a screw that will never rust.



Yuexing Volunteer Association organized the Company's employees to plant trees at Houjiatang voluntary tree planting base in Zhuzhou. A total of 500 employees and their families participated in the activity to guard our common home and contribute to the forest project.



The Company and the Youth League general branch of Ningbo Times participated in the voluntary blood donation activity. A total of 111 employees donated blood with a total blood volume of 36,860 ml.



IT voluntary service activity



Charging pile maintenance activity

2022 Outlook

Corporate social responsibility is the engine of enterprises’ sustainable development. The United Nations’ *2030 Agenda for Sustainable Development* is a common vision of all mankind and a contract between countries all over the world. As we are reaching a crossroads of the era, it is key for China's economic development to vigorously develop the real economy so as to win the initiative in the international economic competition. In 2022, we will continue to strengthen ESG management, strive to contribute to environmental protection, common progress of the society and the industry as well as corporate governance system, and make more innovative development fruits with the state, society, shareholders, customers, employees and stakeholders, thus promoting the green-oriented transition of global economic and social development as well as lifestyle to create a sustainable future.



Index of the ESG Reporting Guide

Main scope, aspect, general disclosure and key performance indicators		Page	Note
Index	Indicators		
A. Environmental			
Aspect A1 Emissions	General Disclosure	P27-29	
	KPI A1.1 The types of emissions and respective emissions data	P28-29	
	KPI A1.2 Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	P28	
	KPI A1.2 Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	P29	
	KPI A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	P29	
	KPI A1.5 Description of emission target(s) set and steps taken to achieve them.	P29	
	KPI A1.6 Description of how hazardous and nonhazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them	P29	
Aspect A2 Use of Resources	General Disclosure	P27-29	
	KPI A2.1 Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility)	P28	
	KPI A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility)	P28	
	KPI A2.3 Description of energy use efficiency target(s) set and steps taken to achieve them.	P27-28	
	KPI A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	P29	
	KPI A2.5 Total packaging material used for finished products (in tons) and, if applicable, with reference to per unit produced		Not Applicable

Main scope, aspect, general disclosure and key performance indicators		Page	Note
Index	Indicators		
Aspect A3 The Environment and Natural Resources	General Disclosure	P27-29	
	KPI A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them	P27-29	
Aspect A4 Climate Change	General Disclosure	P30	
	KPI A4.1 Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them	P30	
B Social			
Employment and Labour Practices			
Aspect B1 Employment	General Disclosure	P35-38,43-44	
	KPI B1.1 Total workforce by gender, employment type, age group and geographical region	P35-36	
	KPI B1.2 Employee turnover rate by gender, age group and geographical region	P35	
Aspect B2 Health and Safety	General Disclosure	P41-42	
	KPI B1.2 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year	P41	
	KPI B2.2 Lost days due to work injury	P42	
	KPI B2.3 Description of occupational health and safety measures adopted, how they are implemented and monitored	P31-32,P41-42	
Aspect B3 Development and Training	General Disclosure	P39-40	
	KPI B3.1 The percentage of employees trained by gender and employee category (e.g. senior management, middle management)	P39	
	KPI B3.2 The average training hours completed per employee by gender and employee category	P39	
Aspect B4 Labor Standards	General Disclosure	P35-36	
	KPI B4.1 Description of measures to review employment practices to avoid child and forced labour	P35-36	
	KPI B4.2 Description of steps taken to eliminate such practices when discovered	P35	

Main scope, aspect, general disclosure and key performance indicators		Page	Note
Index	Indicators		
Operating Practices			
Aspect B5 Supply Chain Management	General Disclosure	P47-48	
	KPI B5.1 Number of suppliers by geographical region	P47	
	KPI B5.2 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored	P47-48	
	KPI B5.3 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored	P47-48	
	KPI B5.4 Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored	P48	
Aspect B6 Product Responsibility	General Disclosure	P17-24	
	KPI B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons		Not Applicable
	KPI B6.2 Number of products and service related complaints received and how they are dealt with	P24	
	KPI B6.3 Description of practices relating to observing and protecting intellectual property rights	P18	
	KPI B6.4 Description of quality assurance process and recall procedures	P19-22	
	KPI B6.5 Description of consumer data protection and privacy policies, and how they are implemented and monitored	P20	
Aspect B7 Anti-corruption	General Disclosure	P14	
	KPI B7.1 Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases	P14	
	KPI B7.2 Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored	P14	
	KPI B7.3 Description of anti-corruption training provided to directors and staff	P14	
Community			
Aspect B8 Community Investment	General Disclosure	P49-51	
	KPI B8.1 Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport)	P49-51	
	KPI B8.2 Resources contributed (e.g. money or time) to the focus area	P49-51	

Feedback Form

Dear readers,

Thank you for reading the Environmental, Social and Governance Report of Zhuzhou CRRC Times Electric in 2021. In order to provide you and other stakeholders with more valuable information and promote our ability of social responsibility management, we sincerely invite you to leave your comments and suggestions on the report.

1. For CRRC Times Electric, what is your identity?

☐ Government ☐ Regulator ☐ Shareholder and investor ☐ Customer ☐ Supplier and partner

☐ Employee ☐ Community and the public ☐ NGO ☐ Others

2. Do you think the report completely include your expectations for CRRC Times Electric?

☐ Yes ☐ No, what else do you want to see in the report

3. What do you think of the clarity, accuracy and completeness of the information, data and indicators disclosed in the report:

☐ Higher ☐ High ☐ Average ☐ Low ☐ Lower

4. Do you think the content and layout design of the report are readable?

☐ Very Good ☐ Good ☐ Average ☐ Poor ☐ Very Poor

5. What are your opinions and suggestions on the social responsibility management of CRRC Times Electric?

株洲中车时代电气股份有限公司
ZHUZHOU CRRC TIMES ELECTRIC CO., LTD.